

1992 S.E.R.C. Bird Census

Richard J. Waynor
Aug. 7, 1992

Methods:

From a 1988 aerial photograph a map was made showing the forests on the S.E.R.C. property. A 0.4 km squared grid was superimposed on the existing 1 ha grid system. All except 9 cells censused had > 50 percent forest. Selected cells were scouted and marked in the center with yellow flags before censusing. Data on vegetation characteristics were recorded at each site. This included percent forest cover, forest age, plant species diversity and density and amount of edge. See appendix A (data sheet) and appendix B (document file) for more complete detail on vegetation and other site variables. At each site two kinds of counts were used: 1) 10 minute standard or passive counts, meaning recording data by quietly watching and listening, followed by, 2) 10 minute playback counts during which the songs of woodthrush, red eyed vireo, white eyed vireo, ovenbird and hooded warbler were played. Each song was played for 45 seconds followed by an approximate one minute listening period.

The recordings were played on a small Realistic 4 AA battery powered cassette/recorder along with a portable Realistic 4 C battery powered dual speaker/amplifier system. The playback was played at a constant volume and the speakers rotated during play.

The recordings of the woodthrush and red eyed vireo were made in north-western Pa, the white eyed vireo somewhere in Md, and the ovenbird and hooded warbler were recorded at S.E.R.C.. All recording were made on a Urer 4000 Reput Monitor tape recorder.

During both counts I focused on the 5 species recorded on the playback. All other species heard or seen were also recorded although not their exact numbers. At each site (except for the subset, I will describe below) a 10 minute standard count was followed by a playback count. On the data sheets an open circle symbolized that a bird was detected in the first 0 to 5 minutes of the count. A half moon indicated detection between the 5 to 10 minute portion of the count. Finally, a solid circle indicates that the bird was detected during the 10 to 20 minute portion of the count (the playback portion).

In situations where it was uncertain if there was a additional bird it was assumed that there was. There were 21 of these cases for woodthrush, 32 for red eyed vireo, 0 for white eyed vireo, 23 for ovenbird and 0 for hooded warbler. These are marked on the computer sheet by a small square in the upper right hand corner of the box in spaces 14 to 47.

A total of 104 sites were censused. The first 23 censused were repeated on subsequent days using 10 minute playback counts only. In July after the 104 censuses were all completed, 18 of the 23 recounted sites were again censused twice; first with 20 minute counts, and secons with 10 minute playback counts on subsequent days. The total number of counts conducted was 163.

Discussion:

We have shown that over the entire season the playback counts do not considerably add to the number of birds detected. This can be seen in the species vs date graphs which do not show an increase between the 'T' (standard + playback counts) and 'P' (standard counts only) as the season progressed. We would expect to see an increase if normal bird activity dropped but could be enhanced with the playback. Likewise, after parametric 2 way analysis of variance stastical test the recensused sites did not show a difference in the playback only and standard only means both early and late in the census.

A census for ovenbirds should end before July 1 since it was found that their numbers significantly dropped by mid July. Woodthrush seems to show some decline with the progressing season. The other species did not seem to decline much.

The most common of the 5 species is the red eyed vireo. Next most common was woodthrush followed by ovenbird. White eyed vireo and hooded warbler occured almost equally (see table 1). It is not clear which is more common since they have different habitat requirements.

A test of standard 20 minute counts compared with 20 minute standard and playback counts should be conducted to test whether the additional individuals detected during the playback was due to the tape or simply the additional listening time.

[A [B
Data;

TABLE 1: Occurance Rate of Focal Species

Standard & Playback (20 minute counts)

	OCCURANCE/PLOT	MEAN Birds/Plot	Total	SUM Birds Recorded	Maxium #/Census
TWOTH	76/104 = 73.1	1.53		159	5
TREVI	101/104 = 97.1	2.49		259	5
TWEVI	19/104 = 18.3	0.22		23	2
TOVEN	56/104 = 53.9	1.00		104	5
THOWA	19/104 = 18.3	0.19		20	2

Standard Only (10 minute counts not including playback)

PWOTH	66/104 = 63.5	1.18		123	5
PREVI	98/104 = 94.2	2.00		208	5
PWEVI	11/104 = 10.6	0.14		14	2
POVEN	47/104 = 45.2	0.70		73	4
PHOWA	16/104 = 15.4	0.16		17	2

TABLE 2: Occurance Rate of Additional Species

Additional Species Total Occurance/Plot
(Playback and Standard)

KEWA	40/104 = 38.5	Percentage of plots with HOWA that also had KEWA present: 9/19 = 47.3
ACFL	71/104 = 68.3	
NOPA	25/104 = 24.0	
SCTA	52/104 = 50.0	

TOTAL SPECIES LIST:

Total Species = 54

* = occurred once

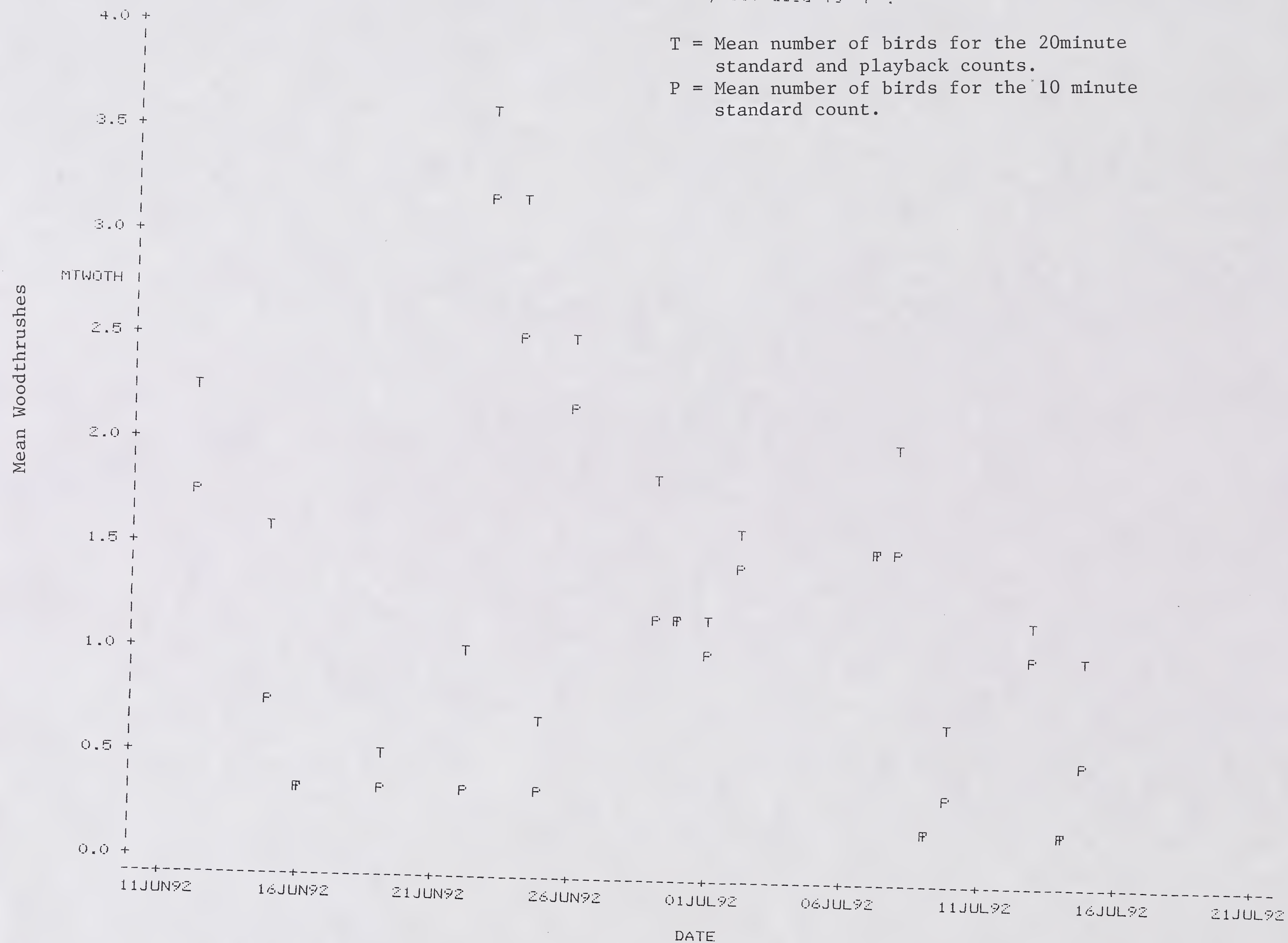
WOTH	RBWP	CAWR	ENSP*	SCTA	YBCOO	INBU
REVI	DOWP	TUTI	OROR*	ACFL	YBCH	BRTH
WEVI	NOFL	BLJA	AMGO	CHSW	BARRED OWL*	RWBB
HOWA	HAWP*	RSHK	KEWA	SUTA*	WITURKEY*	EAPH
OVEN	AMCR	CACH	LOWT	NOMOBI	BRHECOW	CATBI
PIWP	NOCA	COGR	COYE	RUSITO	BLGAGNAT	PRARIE WA
BOBW	FESP	EUST*	AMRO	MODO	BARN OWL*	
TUVU*	PIWA*	MAWR	WOPE	NOPAWA	GB HERON	

See Appendix C for abbreviation meanings.

Plot of MTWOTH*DATE. Symbol used is 'T'.
 Plot of MPWOTH*DATE. Symbol used is 'P'.

T = Mean number of birds for the 20minute
 standard and playback counts.

P = Mean number of birds for the 10 minute
 standard count.

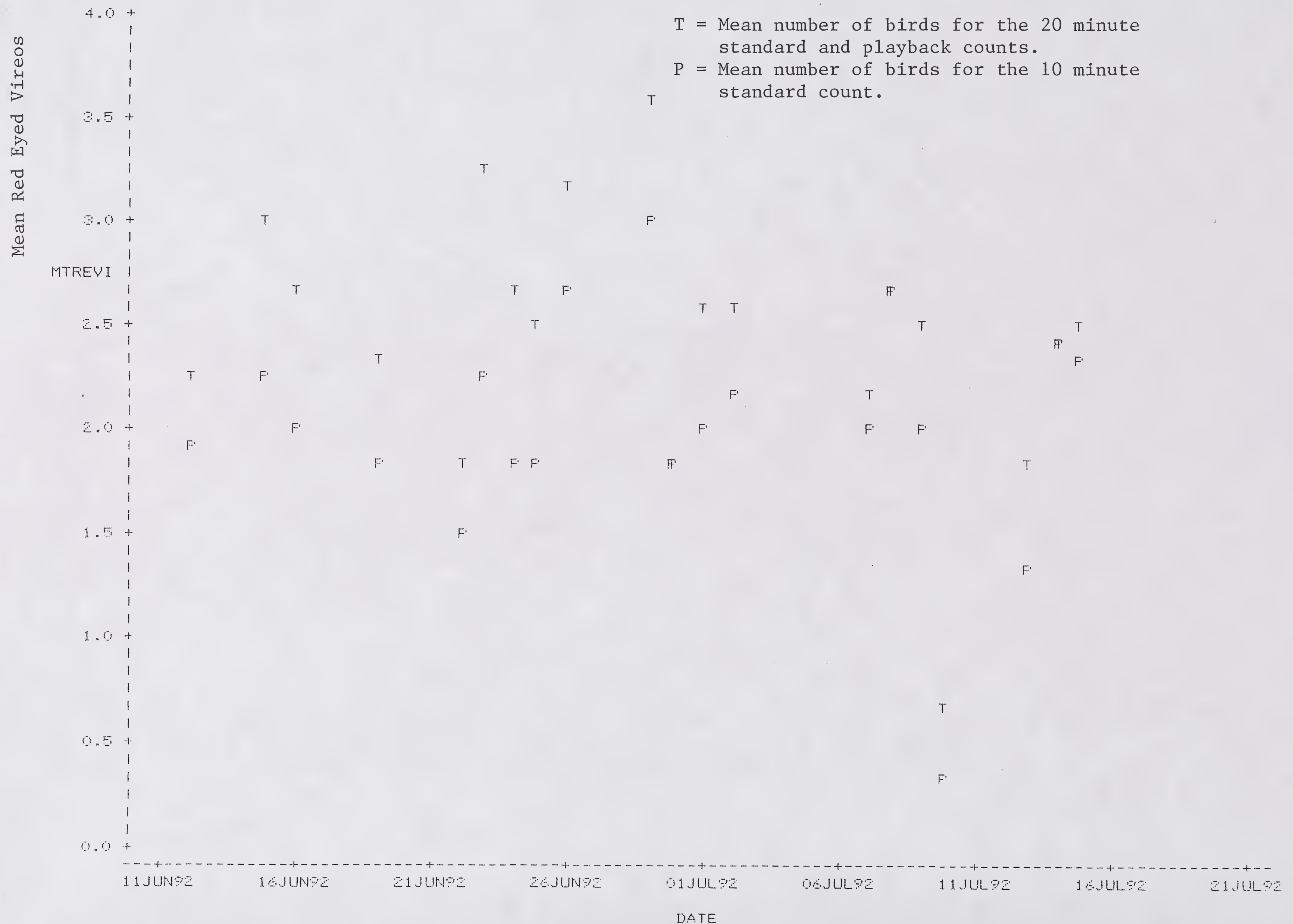


NOTE: 4 obs had missing values.

Plot of MTREVI*DATE. Symbol used is 'T'.
 Plot of MPREVI*DATE. Symbol used is 'P'.

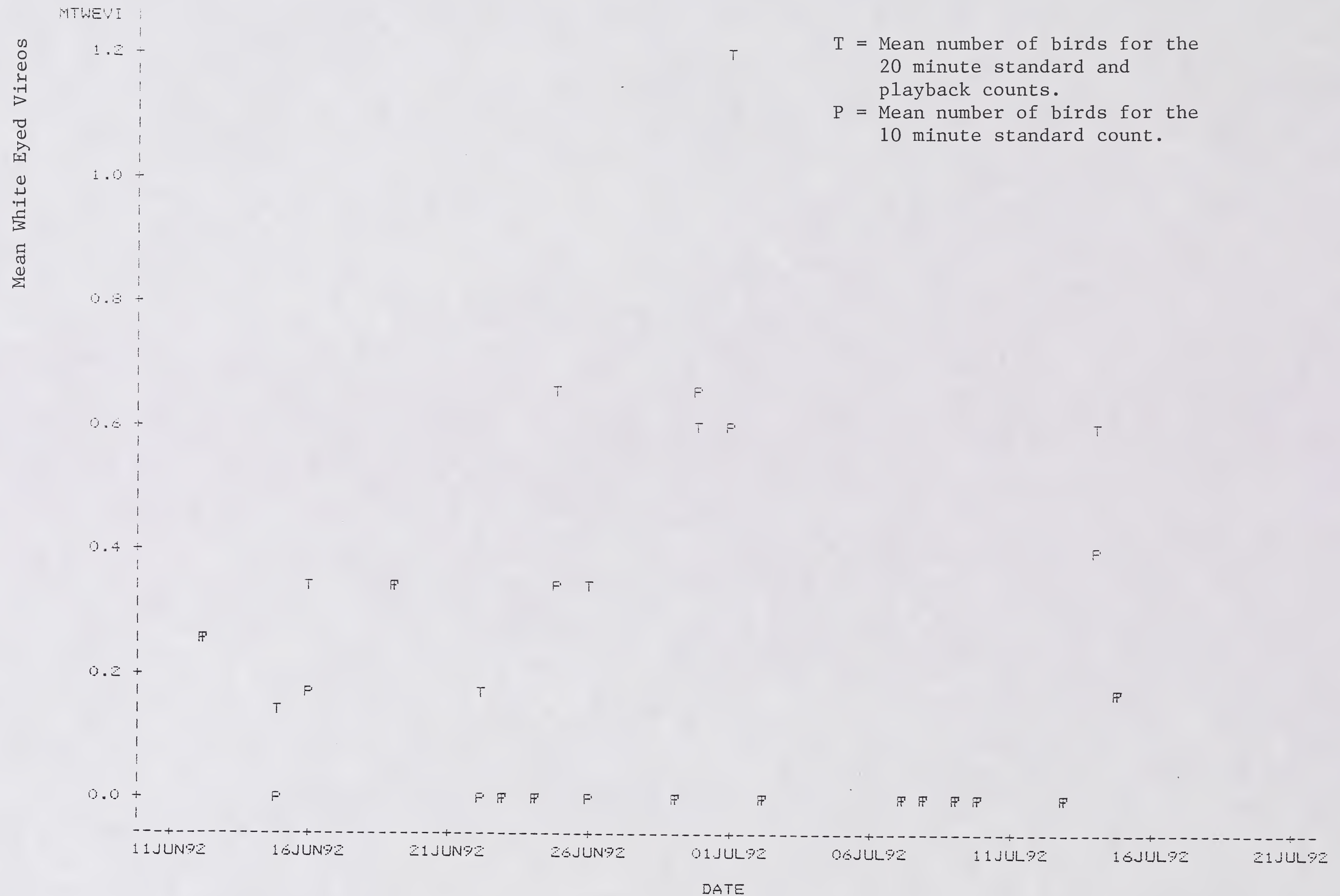
T = Mean number of birds for the 20 minute
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P = Mean number of birds for the 10 minute
 standard count.



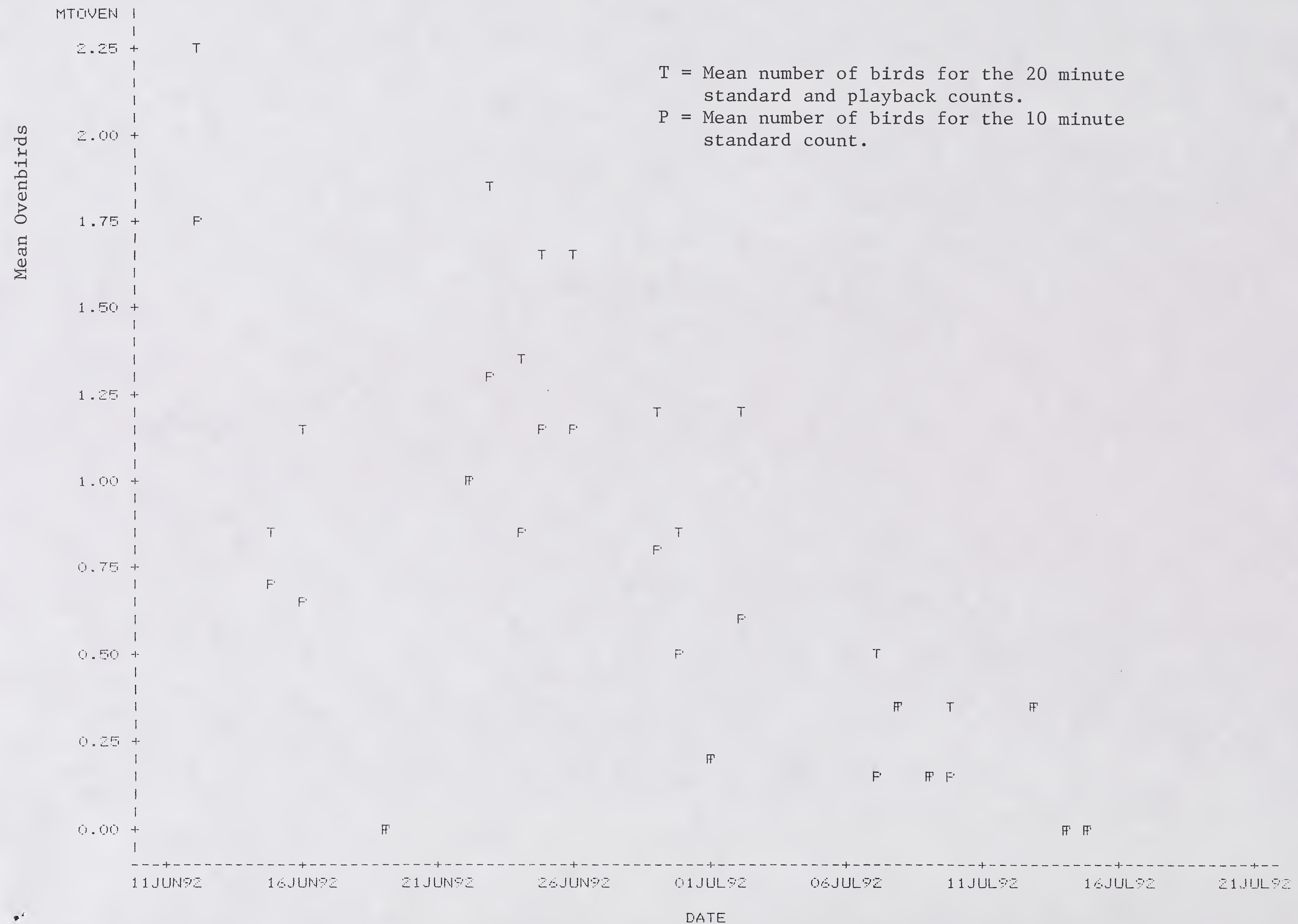
NOTE: 4 obs had missing values.

Plot of MTWEVI*DATE. Symbol used is 'T'.
Plot of MPWEVI*DATE. Symbol used is 'P'.



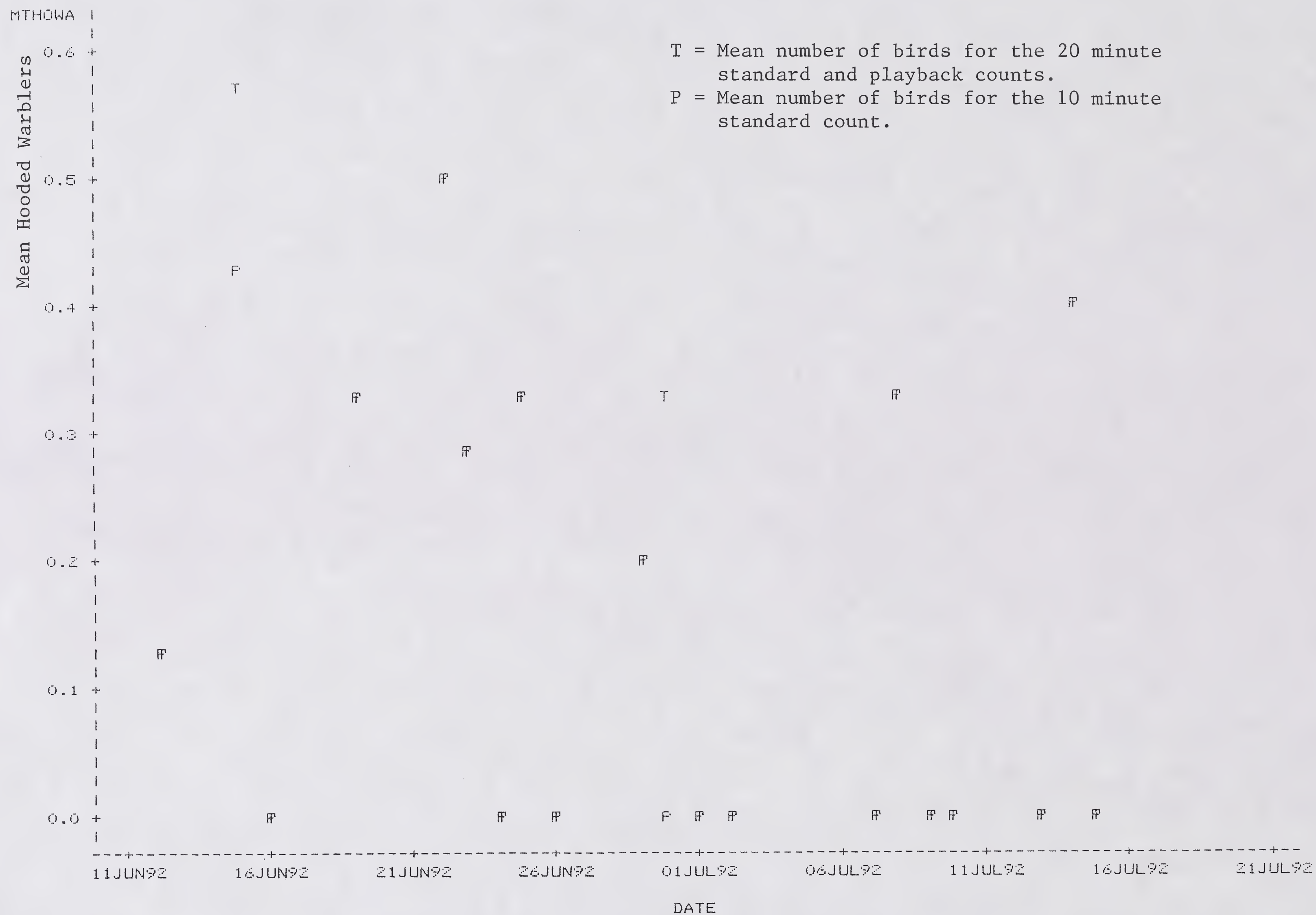
NOTE: 4 obs had missing values.

Plot of MTOVEN*DATE. Symbol used is 'T'.
 Plot of MPOVEN*DATE. Symbol used is 'P'.



NOTE: 4 obs had missing values.

Plot of MTHOWA*DATE. Symbol used is 'T'.
Plot of MPHOWA*DATE. Symbol used is 'P'.



NOTE: 3 obs had missing values.

SUMMARY OF 1983-1992 SERC BREEDING BIRD CENSUSES

HABITAT: Mature upland deciduous forest dominated by *Quercus*, *Fagus*, *Carya*, *Liriodendron*.
Bordered on 3 sides by riparian forest, on one side by successional forest. PLOT AREA: 15 ha

Species	Number of territories					
	1983	1987	1989	1990	1991	1992
Barred Owl		+		+		+
Red-shouldered Hawk	+		nr,**	nr	+	
American Woodcock				+		
Common Flicker	1		+	+	0.75	0.5
Red-bell. Woodpecker	3.75	2.25	2.25	2	2.25	3
Downy Woodpecker	1.25	1.25	1.5	1	1.75	2
Hairy Woodpecker	0.75	0.25	0.5	0.5	+	
Pileated Woodpecker	0.5		0.5	0.25	0.5	0.25
Yellow-billed Cuckoo	+	1.5	+	+		
Eastern Wood Pewee	4	4	4.75	2.25	1.5	3
Acadian Flycatcher	9.75	9	10.75	6.25	9.75	12
Great Cr. Flycatcher	1	+	0.5	+	0.25	
Common Crow			nr	nr	nr	+
Blue Jay	+		1.25	0.5	+	0.25
White-br. Nuthatch	1	1	1	0.75	0.25	1
Carolina Wren			2	0.5	2	1.5
Blue-gray Gnatcatcher	+					
Wood Thrush	8	10	8.75	4.5	5.25	6
American Robin		+	+			+
Gray Catbird	+	+				
Tufted Titmouse	2.5	2.5	2.5	1.25	1	1.5
Carolina Chickadee	3	1.5	1	0.75	1	1
Red-eyed Vireo	14.75	15	10.5	7.5	4.75	7.75
Yellow-thr. Vireo	+					
Kentucky Warbler	2		+	+	1	0.5
Hooded Warbler	1	nr	+	nr		
Ovenbird	12.25	10.75	10.5	6.75	5.5	6.5
Northern Parula	0.75	1	1	nr	nr	0.5
Scarlet Tanager	3.25	2	1.25	+	1	0.5
Northern Cardinal	2.75	2.25	2	1.5	0.5	0.25
Rufous-sided Towhee	nr			+		
Br.-headed Cowbird	nr	+	+	+	+	+
Census visits	6	11	8	5	5	7
Census hours	15.9	28.0	17.2	8.25	10.8	11.1
Territories on plot:	73.25	64.25	62.5	36.25	39.0	48.0
Territories/100 ac	185.0	162.2	157.8	91.5	98.5	121.2

* - detected ≤ 2 times and/or $< 20\%$ of territory within plot ; ** - detected within 100m of plot

Additional spp. detected within 100m of plot in at least one year : Great Blue Heron, Green-backed Heron, Wood Duck, Mallard, Mourning Dove, Eastern Phoebe, White-eyed Vireo, Louisiana Waterthrush, Common Yellowthroat, Indigo Bunting, American Goldfinch, Common Grackle

SUMMARY OF 1983-1992 SERC BREEDING BIRD CENSUSES

HABITAT: Mature upland deciduous forest dominated by *Quercus*, *Fagus*, *Carya*, *Liriodendron*.
Bordered on 3 sides by riparian forest, on one side by successional forest. PLOT AREA: 15 ha

Species	Number of territories					
	1983	1987	1989	1990	1991	1992
Barred Owl		+		+		+
Red-shouldered Hawk	+		nr**	nr	+	
American Woodcock				+		
Common Flicker	1		+	+	0.75	0.5
Red-bell. Woodpecker	3.75	2.25	2.25	2	2.25	3
Downy Woodpecker	1.25	1.25	1.5	1	1.75	2
Hairy Woodpecker	0.75	0.25	0.5	0.5	+	
Pileated Woodpecker	0.5		0.5	0.25	0.5	0.25
Yellow-billed Cuckoo	+	1.5	+	+		
Eastern Wood Pewee	4	4	4.75	2.25	1.5	3
Acadian Flycatcher	9.75	9	10.75	6.25	9.75	12
Great Cr. Flycatcher	1	+	0.5	+	0.25	
Common Crow			nr	nr	nr	+
Blue Jay	+		1.25	0.5	+	0.25
White-br. Nuthatch	1	1	1	0.75	0.25	1
Carolina Wren			2	0.5	2	1.5
Blue-gray Gnatcatcher	+					
Wood Thrush	8	10	8.75	4.5	5.25	6
American Robin		+	+			+
Gray Catbird	+	+				
Tufted Titmouse	2.5	2.5	2.5	1.25	1	1.5
Carolina Chickadee	3	1.5	1	0.75	1	1
Red-eyed Vireo	14.75	15	10.5	7.5	4.75	7.75
Yellow-thr. Vireo	+					
Kentucky Warbler	2		+	+	1	0.5
Hooded Warbler	1	nr	+	nr		
Ovenbird	12.25	10.75	10.5	6.75	5.5	6.5
Northern Parula	0.75	1	1	nr	nr	0.5
Scarlet Tanager	3.25	2	1.25	+	1	0.5
Northern Cardinal	2.75	2.25	2	1.5	0.5	0.25
Rufous-sided Towhee	nr			+		
Br.-headed Cowbird	nr	+	+	+	+	+
Census visits	6	11	8	5	5	7
Census hours	15.9	28.0	17.2	8.25	10.8	11.1
Territories on plot:	73.25	64.25	62.5	36.25	39.0	48.0
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American Woodcock				+		
Common Flicker	1		+	+	0.75	0.5
Red-bell. Woodpecker	3.75	2.25	2.25	2	2.25	3
Downy Woodpecker	1.25	1.25	1.5	1	1.75	2
Hairy Woodpecker	0.75	0.25	0.5	0.5	+	
Pileated Woodpecker	0.5		0.5	0.25	0.5	0.25
Yellow-billed Cuckoo	+	1.5	+	+		
Eastern Wood Pewee	4	4	4.75	2.25	1.5	3
Acadian Flycatcher	9.75	9	10.75	6.25	9.75	12
Great Cr. Flycatcher	1	+	0.5	+	0.25	
Common Crow			nr	nr	nr	+
Blue Jay	+		1.25	0.5	+	0.25
White-br. Nuthatch	1	1	1	0.75	0.25	1
Carolina Wren			2	0.5	2	1.5
Blue-gray Gnatcatcher	+					
Wood Thrush	8	10	8.75	4.5	5.25	6
American Robin		+	+			+
Gray Catbird	+	+				
Tufted Titmouse	2.5	2.5	2.5	1.25	1	1.5
Carolina Chickadee	3	1.5	1	0.75	1	1
Red-eyed Vireo	14.75	15	10.5	7.5	4.75	7.75
Yellow-thr. Vireo	+					
Kentucky Warbler	2		+	+	1	0.5
Hooded Warbler	1	nr	+	nr		
Ovenbird	12.25	10.75	10.5	6.75	5.5	6.5
Northern Parula	0.75	1	1	nr	nr	0.5
Scarlet Tanager	3.25	2	1.25	+	1	0.5
Northern Cardinal	2.75	2.25	2	1.5	0.5	0.25
Rufous-sided Towhee	nr			+		
Br.-headed Cowbird	nr	+	+	+	+	+
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American Woodcock				+		
Common Flicker	1		+	+	0.75	0.5
Red-bell. Woodpecker	3.75	2.25	2.25	2	2.25	3
Downy Woodpecker	1.25	1.25	1.5	1	1.75	2
Hairy Woodpecker	0.75	0.25	0.5	0.5	+	
Pileated Woodpecker	0.5		0.5	0.25	0.5	0.25
Yellow-billed Cuckoo	+	1.5	+	+		
Eastern Wood Pewee	4	4	4.75	2.25	1.5	3
Acadian Flycatcher	9.75	9	10.75	6.25	9.75	12
Great Cr. Flycatcher	1	+	0.5	+	0.25	
Common Crow			nr	nr	nr	+
Blue Jay	+		1.25	0.5	+	0.25
White-br. Nuthatch	1	1	1	0.75	0.25	1
Carolina Wren			2	0.5	2	1.5
Blue-gray Gnatcatcher	+					
Wood Thrush	8	10	8.75	4.5	5.25	6
American Robin		+	+			+
Gray Catbird	+	+				
Tufted Titmouse	2.5	2.5	2.5	1.25	1	1.5
Carolina Chickadee	3	1.5	1	0.75	1	1
Red-eyed Vireo	14.75	15	10.5	7.5	4.75	7.75
Yellow-thr. Vireo	+					
Kentucky Warbler	2		+	+	1	0.5
Hooded Warbler	1	nr	+	nr		
Ovenbird	12.25	10.75	10.5	6.75	5.5	6.5
Northern Parula	0.75	1	1	nr	nr	0.5
Scarlet Tanager	3.25	2	1.25	+	1	0.5
Northern Cardinal	2.75	2.25	2	1.5	0.5	0.25
Rufous-sided Towhee	nr			+		
Br.-headed Cowbird	nr	+	+	+	+	+
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Downy Woodpecker	1.25	1.25	1.5	1	1.75	2
Hairy Woodpecker	0.75	0.25	0.5	0.5	+	
Pileated Woodpecker	0.5		0.5	0.25	0.5	0.25
Yellow-billed Cuckoo	+	1.5	+	+		
Eastern Wood Pewee	4	4	4.75	2.25	1.5	3
Acadian Flycatcher	9.75	9	10.75	6.25	9.75	12
Great Cr. Flycatcher	1	+	0.5	+	0.25	
Common Crow			nr	nr	nr	+
Blue Jay	+		1.25	0.5	+	0.25
White-br. Nuthatch	1	1	1	0.75	0.25	1
Carolina Wren			2	0.5	2	1.5
Blue-gray Gnatcatcher	+					
Wood Thrush	8	10	8.75	4.5	5.25	6
American Robin		+	+			+
Gray Catbird	+	+				
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Kentucky Warbler	2		+	+	1	0.5
Hooded Warbler	1	nr	+	nr		
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Northern Parula	0.75	1	1	nr	nr	0.5
Scarlet Tanager	3.25	2	1.25	+	1	0.5
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Downy Woodpecker	1.25	1.25	1.5	1	1.75	2
Hairy Woodpecker	0.75	0.25	0.5	0.5	+	
Pileated Woodpecker	0.5		0.5	0.25	0.5	0.25
Yellow-billed Cuckoo	+	1.5	+	+		
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Common Crow			nr	nr	nr	+
Blue Jay	+		1.25	0.5	+	0.25
White-br. Nuthatch	1	1	1	0.75	0.25	1
Carolina Wren			2	0.5	2	1.5
Blue-gray Gnatcatcher	+					
Wood Thrush	8	10	8.75	4.5	5.25	6
American Robin		+	+			+
Gray Catbird	+	+				
Tufted Titmouse	2.5	2.5	2.5	1.25	1	1.5
Carolina Chickadee	3	1.5	1	0.75	1	1
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Yellow-thr. Vireo	+					
Kentucky Warbler	2		+	+	1	0.5
Hooded Warbler	1	nr	+	nr		
Ovenbird	12.25	10.75	10.5	6.75	5.5	6.5
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Scarlet Tanager	3.25	2	1.25	+	1	0.5
Northern Cardinal	2.75	2.25	2	1.5	0.5	0.25
Rufous-sided Towhee	nr			+		
Br.-headed Cowbird	nr	+	+	+	+	+
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Additional spp. detected within 100m of plot in at least one year : Great Blue Heron, Green-backed Heron, Wood Duck, Mallard, Mourning Dove, Eastern Phoebe, White-eyed Vireo, Louisiana Waterthrush, Common Yellowthroat, Indigo Bunting, American Goldfinch, Common Grackle

SUMMARY OF 1983-1992 SERC BREEDING BIRD CENSUSES

HABITAT: Mature upland deciduous forest dominated by *Quercus*, *Fagus*, *Carya*, *Liriodendron*.
Bordered on 3 sides by riparian forest, on one side by successional forest. PLOT AREA: 15 ha

Species	Number of territories					
	1983	1987	1989	1990	1991	1992
Barred Owl		+		+		+
Red-shouldered Hawk	+		nr**	nr	+	
American Woodcock				+		
Common Flicker	1		+	+	0.75	0.5
Red-bell. Woodpecker	3.75	2.25	2.25	2	2.25	3
Downy Woodpecker	1.25	1.25	1.5	1	1.75	2
Hairy Woodpecker	0.75	0.25	0.5	0.5	+	
Pileated Woodpecker	0.5		0.5	0.25	0.5	0.25
Yellow-billed Cuckoo	+	1.5	+	+		
Eastern Wood Pewee	4	4	4.75	2.25	1.5	3
Acadian Flycatcher	9.75	9	10.75	6.25	9.75	12
Great Cr. Flycatcher	1	+	0.5	+	0.25	
Common Crow			nr	nr	nr	+
Blue Jay	+		1.25	0.5	+	0.25
White-br. Nuthatch	1	1	1	0.75	0.25	1
Carolina Wren			2	0.5	2	1.5
Blue-gray Gnatcatcher	+					
Wood Thrush	8	10	8.75	4.5	5.25	6
American Robin		+	+			+
Gray Catbird	+	+				
Tufted Titmouse	2.5	2.5	2.5	1.25	1	1.5
Carolina Chickadee	3	1.5	1	0.75	1	1
Red-eyed Vireo	14.75	15	10.5	7.5	4.75	7.75
Yellow-thr. Vireo	+					
Kentucky Warbler	2		+	+	1	0.5
Hooded Warbler	1	nr	+	nr		
Ovenbird	12.25	10.75	10.5	6.75	5.5	6.5
Northern Parula	0.75	1	1	nr	nr	0.5
Scarlet Tanager	3.25	2	1.25	+	1	0.5
Northern Cardinal	2.75	2.25	2	1.5	0.5	0.25
Rufous-sided Towhee	nr			+		
Br.-headed Cowbird	nr	+	+	+	+	+
Census visits	6	11	8	5	5	7
Census hours	15.9	28.0	17.2	8.25	10.8	11.1
Territories on plot:	73.25	64.25	62.5	36.25	39.0	48.0
Territories/100 ac	185.0	162.2	157.8	91.5	98.5	121.2

* - detected ≤ 2 times and/or $< 20\%$ of territory within plot ; ** - detected within 100m of plot

Additional spp. detected within 100m of plot in at least one year : Great Blue Heron, Green-backed Heron, Wood Duck, Mallard, Mourning Dove, Eastern Phoebe, White-eyed Vireo, Louisiana Waterthrush, Common Yellowthroat, Indigo Bunting, American Goldfinch, Common Grackle

SUMMARY OF 1983-1992 SERC BREEDING BIRD CENSUSES

HABITAT: Mature upland deciduous forest dominated by *Quercus*, *Fagus*, *Carya*, *Liriodendron*.
Bordered on 3 sides by riparian forest, on one side by successional forest. PLOT AREA: 15 ha

Species	Number of territories					
	1983	1987	1989	1990	1991	1992
Barred Owl		+		+		+
Red-shouldered Hawk	+		nr**	nr	+	
American Woodcock				+		
Common Flicker	1		+	+	0.75	0.5
Red-bell. Woodpecker	3.75	2.25	2.25	2	2.25	3
Downy Woodpecker	1.25	1.25	1.5	1	1.75	2
Hairy Woodpecker	0.75	0.25	0.5	0.5	+	
Pileated Woodpecker	0.5		0.5	0.25	0.5	0.25
Yellow-billed Cuckoo	+	1.5	+	+		
Eastern Wood Pewee	4	4	4.75	2.25	1.5	3
Acadian Flycatcher	9.75	9	10.75	6.25	9.75	12
Great Cr. Flycatcher	1	+	0.5	+	0.25	
Common Crow			nr	nr	nr	+
Blue Jay	+		1.25	0.5	+	0.25
White-br. Nuthatch	1	1	1	0.75	0.25	1
Carolina Wren			2	0.5	2	1.5
Blue-gray Gnatcatcher	+					
Wood Thrush	8	10	8.75	4.5	5.25	6
American Robin		+	+			+
Gray Catbird	+	+				
Tufted Titmouse	2.5	2.5	2.5	1.25	1	1.5
Carolina Chickadee	3	1.5	1	0.75	1	1
Red-eyed Vireo	14.75	15	10.5	7.5	4.75	7.75
Yellow-thr. Vireo	+					
Kentucky Warbler	2		+	+	1	0.5
Hooded Warbler	1	nr	+	nr		
Ovenbird	12.25	10.75	10.5	6.75	5.5	6.5
Northern Parula	0.75	1	1	nr	nr	0.5
Scarlet Tanager	3.25	2	1.25	+	1	0.5
Northern Cardinal	2.75	2.25	2	1.5	0.5	0.25
Rufous-sided Towhee	nr			+		
Br.-headed Cowbird	nr	+	+	+	+	+
Census visits	6	11	8	5	5	7
Census hours	15.9	28.0	17.2	8.25	10.8	11.1
Territories on plot:	73.25	64.25	62.5	36.25	39.0	48.0
Territories/100 ac	185.0	162.2	157.8	91.5	98.5	121.2

* - detected ≤ 2 times and/or $< 20\%$ of territory within plot ; ** - detected within 100m of plot

Additional spp. detected within 100m of plot in at least one year : Great Blue Heron, Green-backed Heron, Wood Duck, Mallard, Mourning Dove, Eastern Phoebe, White-eyed Vireo, Louisiana Waterthrush, Common Yellowthroat, Indigo Bunting, American Goldfinch, Common Grackle

SUMMARY OF 1992 SERC BREEDING BIRD CENSUS

DATES: 6-19 June 1992 VISITS: 7 HOURS: 11 hr 10 min

PLOT AREA: 15 ha (40 acre)

SPECIES	<u>TERRITORIES</u>		<u>EST. PRS/100 ACRES</u>	
	1991	1992	1991	1992
Barred Owl		+		ca.1
Red-shouldered Hawk	+		+	
Common Flicker	0.75	0.5	1.9	1.2
Red-bellied Woodpecker	2.25	3	5.6	7.5
Downy Woodpecker	1.75	2	4.4	5.0
Hairy Woodpecker	+		+	
Pileated Woodpecker	0.5	0.25	1.2	0.6
Yellow-billed Cuckoo	+		+	
Eastern Wood Pewee	1.5	3	3.8	7.5
Acadian Flycatcher	9.75	12	24.4	30.0
Great Crested Flycatcher	0.25		0.6	
Common Crow	nr	+		+
Blue Jay	+	0.25	+	0.6
White-breasted Nuthatch	0.25	1	0.6	2.5
Carolina Wren	2	1.5	5.0	3.8
Wood Thrush	5.25	6	13.1	15.0
American Robin		+		+
Tufted Titmouse	1	1.5	2.5	3.8
Carolina Chickadee	1	1	2.5	2.5
Red-eyed Vireo	4.75	7.75	11.9	19.4
Kentucky Warbler	1.0	0.5	2.5	2.2
Ovenbird	5.5	6.5	13.8	16.2
Northern Parula Warbler	nr	0.5		1.2
Scarlet Tanager	1	0.5	2.5	1.2
Northern Cardinal	0.5	0.25	1.2	0.6
Brown-headed Cowbird	+	+	+	+
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Territories on plot:	39.0	48.0		
Est. territories/100 acres			97.5	120.0

Additional spp. Detected within 100m of plot: Great Blue Heron, Green-backed Heron, Wood Duck, Mallard, Mourning Dove, Eastern Phoebe, White-eyed Vireo, Louisiana Waterthrush, Indigo Bunting, Common Grackle

SUMMARY OF 1992 SERC BREEDING BIRD CENSUS

DATES: 6-19 June 1992 VISITS: 7 HOURS: 11 hr 10 min

PLOT AREA: 15 ha (40 acre)

SPECIES	<u>TERRITORIES</u>		<u>EST. PRS/100 ACRES</u>	
	1991	1992	1991	1992
Barred Owl		+		ca.1
Red-shouldered Hawk	+		+	
Common Flicker	0.75	0.5	1.9	1.2
Red-bellied Woodpecker	2.25	3	5.6	7.5
Downy Woodpecker	1.75	2	4.4	5.0
Hairy Woodpecker	+		+	
Pileated Woodpecker	0.5	0.25	1.2	0.6
Yellow-billed Cuckoo	+		+	
Eastern Wood Pewee	1.5	3	3.8	7.5
Acadian Flycatcher	9.75	12	24.4	30.0
Great Crested Flycatcher	0.25		0.6	
Common Crow	nr	+		+
Blue Jay	+	0.25	+	0.6
White-breasted Nuthatch	0.25	1	0.6	2.5
Carolina Wren	2	1.5	5.0	3.8
Wood Thrush	5.25	6	13.1	15.0
American Robin		+		+
Tufted Titmouse	1	1.5	2.5	3.8
Carolina Chickadee	1	1	2.5	2.5
Red-eyed Vireo	4.75	7.75	11.9	19.4
Kentucky Warbler	1.0	0.5	2.5	2.2
Ovenbird	5.5	6.5	13.8	16.2
Northern Parula Warbler	nr	0.5		1.2
Scarlet Tanager	1	0.5	2.5	1.2
Northern Cardinal	0.5	0.25	1.2	0.6
Brown-headed Cowbird	+	+	+	+
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Territories on plot:	39.0	48.0		
Est. territories/100 acres			97.5	120.0

Additional spp. Detected within 100m of plot: Great Blue Heron, Green-backed Heron, Wood Duck, Mallard, Mourning Dove, Eastern Phoebe, White-eyed Vireo, Louisiana Waterthrush, Indigo Bunting, Common Grackle

SUMMARY OF 1992 SERC BREEDING BIRD CENSUS

DATES: 6-19 June 1992 VISITS: 7 HOURS: 11 hr 10 min

PLOT AREA: 15 ha (40 acre)

SPECIES	<u>TERRITORIES</u>		<u>EST. PRS/100 ACRES</u>	
	1991	1992	1991	1992
Barred Owl		+		ca.1
Red-shouldered Hawk	+		+	
Common Flicker	0.75	0.5	1.9	1.2
Red-bellied Woodpecker	2.25	3	5.6	7.5
Downy Woodpecker	1.75	2	4.4	5.0
Hairy Woodpecker	+		+	
Pileated Woodpecker	0.5	0.25	1.2	0.6
Yellow-billed Cuckoo	+		+	
Eastern Wood Pewee	1.5	3	3.8	7.5
Acadian Flycatcher	9.75	12	24.4	30.0
Great Crested Flycatcher	0.25		0.6	
Common Crow	nr	+		+
Blue Jay	+	0.25	+	0.6
White-breasted Nuthatch	0.25	1	0.6	2.5
Carolina Wren	2	1.5	5.0	3.8
Wood Thrush	5.25	6	13.1	15.0
American Robin		+		+
Tufted Titmouse	1	1.5	2.5	3.8
Carolina Chickadee	1	1	2.5	2.5
Red-eyed Vireo	4.75	7.75	11.9	19.4
Kentucky Warbler	1.0	0.5	2.5	2.2
Ovenbird	5.5	6.5	13.8	16.2
Northern Parula Warbler	nr	0.5		1.2
Scarlet Tanager	1	0.5	2.5	1.2
Northern Cardinal	0.5	0.25	1.2	0.6
Brown-headed Cowbird	+	+	+	+
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Territories on plot:	39.0	48.0		
Est. territories/100 acres			97.5	120.0

Additional spp. Detected within 100m of plot: Great Blue Heron, Green-backed Heron, Wood Duck, Mallard, Mourning Dove, Eastern Phoebe, White-eyed Vireo, Louisiana Waterthrush, Indigo Bunting, Common Grackle

SUMMARY OF 1992 SERC BREEDING BIRD CENSUS

DATES: 6-19 June 1992 VISITS: 7 HOURS: 11 hr 10 min

PLOT AREA: 15 ha (40 acre)

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Hairy Woodpecker	+		+	
Pileated Woodpecker	0.5	0.25	1.2	0.6
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Common Crow	nr	+		+
Blue Jay	+	0.25	+	0.6
White-breasted Nuthatch	0.25	1	0.6	2.5
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Northern Parula Warbler	nr	0.5		1.2
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Northern Cardinal	0.5	0.25	1.2	0.6
Brown-headed Cowbird	+	+	+	+
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Territories on plot:	39.0	48.0		
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SUMMARY OF 1992 SERC BREEDING BIRD CENSUS

DATES: 6-19 June 1992 VISITS: 7 HOURS: 11 hr 10 min

PLOT AREA: 15 ha (40 acre)

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Downy Woodpecker	1.75	2	4.4	5.0
Hairy Woodpecker	+		+	
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Yellow-billed Cuckoo	+		+	
Eastern Wood Pewee	1.5	3	3.8	7.5
Acadian Flycatcher	9.75	12	24.4	30.0
Great Crested Flycatcher	0.25		0.6	
Common Crow	nr	+		+
Blue Jay	+	0.25	+	0.6
White-breasted Nuthatch	0.25	1	0.6	2.5
Carolina Wren	2	1.5	5.0	3.8
Wood Thrush	5.25	6	13.1	15.0
American Robin		+		+
Tufted Titmouse	1	1.5	2.5	3.8
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Ovenbird	5.5	6.5	13.8	16.2
Northern Parula Warbler	nr	0.5		1.2
Scarlet Tanager	1	0.5	2.5	1.2
Northern Cardinal	0.5	0.25	1.2	0.6
Brown-headed Cowbird	+	+	+	+
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Territories on plot:	39.0	48.0		
Est. territories/100 acres			97.5	120.0

Additional spp. Detected within 100m of plot: Great Blue Heron, Green-backed Heron, Wood Duck, Mallard, Mourning Dove, Eastern Phoebe, White-eyed Vireo, Louisiana Waterthrush, Indigo Bunting, Common Grackle

SUMMARY OF 1992 SERC BREEDING BIRD CENSUS

DATES: 6-19 June 1992 VISITS: 7 HOURS: 11 hr 10 min

PLOT AREA: 15 ha (40 acre)

SPECIES	<u>TERRITORIES</u>		<u>EST. PRS/100 ACRES</u>	
	1991	1992	1991	1992
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Downy Woodpecker	1.75	2	4.4	5.0
Hairy Woodpecker	+		+	
Pileated Woodpecker	0.5	0.25	1.2	0.6
Yellow-billed Cuckoo	+		+	
Eastern Wood Pewee	1.5	3	3.8	7.5
Acadian Flycatcher	9.75	12	24.4	30.0
Great Crested Flycatcher	0.25		0.6	
Common Crow	nr	+		+
Blue Jay	+	0.25	+	0.6
White-breasted Nuthatch	0.25	1	0.6	2.5
Carolina Wren	2	1.5	5.0	3.8
Wood Thrush	5.25	6	13.1	15.0
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Kentucky Warbler	1.0	0.5	2.5	2.2
Ovenbird	5.5	6.5	13.8	16.2
Northern Parula Warbler	nr	0.5		1.2
Scarlet Tanager	1	0.5	2.5	1.2
Northern Cardinal	0.5	0.25	1.2	0.6
Brown-headed Cowbird	+	+	+	+
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Territories on plot:	39.0	48.0		
Est. territories/100 acres			97.5	120.0

Additional spp. Detected within 100m of plot: Great Blue Heron, Green-backed Heron, Wood Duck, Mallard, Mourning Dove, Eastern Phoebe, White-eyed Vireo, Louisiana Waterthrush, Indigo Bunting, Common Grackle

SUMMARY OF 1992 SERC BREEDING BIRD CENSUS

DATES: 6-19 June 1992 VISITS: 7 HOURS: 11 hr 10 min

PLOT AREA: 15 ha (40 acre)

SPECIES	<u>TERRITORIES</u>		<u>EST. PRS/100 ACRES</u>	
	1991	1992	1991	1992
Barred Owl		+		ca.1
Red-shouldered Hawk	+		+	
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Downy Woodpecker	1.75	2	4.4	5.0
Hairy Woodpecker	+		+	
Pileated Woodpecker	0.5	0.25	1.2	0.6
Yellow-billed Cuckoo	+		+	
Eastern Wood Pewee	1.5	3	3.8	7.5
Acadian Flycatcher	9.75	12	24.4	30.0
Great Crested Flycatcher	0.25		0.6	
Common Crow	nr	+		+
Blue Jay	+	0.25	+	0.6
White-breasted Nuthatch	0.25	1	0.6	2.5
Carolina Wren	2	1.5	5.0	3.8
Wood Thrush	5.25	6	13.1	15.0
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Northern Cardinal	0.5	0.25	1.2	0.6
Brown-headed Cowbird	+	+	+	+
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Territories on plot:	39.0	48.0		
Est. territories/100 acres			97.5	120.0

Additional spp. Detected within 100m of plot: Great Blue Heron, Green-backed Heron, Wood Duck, Mallard, Mourning Dove, Eastern Phoebe, White-eyed Vireo, Louisiana Waterthrush, Indigo Bunting, Common Grackle

SUMMARY OF 1992 SERC BREEDING BIRD CENSUS

DATES: 6-19 June 1992 VISITS: 7 HOURS: 11 hr 10 min

PLOT AREA: 15 ha (40 acre)

SPECIES	<u>TERRITORIES</u>		<u>EST. PRS/100 ACRES</u>	
	1991	1992	1991	1992
Barred Owl		+		ca.1
Red-shouldered Hawk	+		+	
Common Flicker	0.75	0.5	1.9	1.2
Red-bellied Woodpecker	2.25	3	5.6	7.5
Downy Woodpecker	1.75	2	4.4	5.0
Hairy Woodpecker	+		+	
Pileated Woodpecker	0.5	0.25	1.2	0.6
Yellow-billed Cuckoo	+		+	
Eastern Wood Pewee	1.5	3	3.8	7.5
Acadian Flycatcher	9.75	12	24.4	30.0
Great Crested Flycatcher	0.25		0.6	
Common Crow	nr	+		+
Blue Jay	+	0.25	+	0.6
White-breasted Nuthatch	0.25	1	0.6	2.5
Carolina Wren	2	1.5	5.0	3.8
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Northern Cardinal	0.5	0.25	1.2	0.6
Brown-headed Cowbird	+	+	+	+
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Territories on plot:	39.0	48.0		
Est. territories/100 acres			97.5	120.0

Additional spp. Detected within 100m of plot: Great Blue Heron, Green-backed Heron, Wood Duck, Mallard, Mourning Dove, Eastern Phoebe, White-eyed Vireo, Louisiana Waterthrush, Indigo Bunting, Common Grackle

SUMMARY OF 1992 SERC BREEDING BIRD CENSUS

DATES: 6-19 June 1992 VISITS: 7 HOURS: 11 hr 10 min

PLOT AREA: 15 ha (40 acre)

SPECIES	TERRITORIES		EST. PRS/100 ACRES	
	1991	1992	1991	1992
Barred Owl		+		ca.1
Red-shouldered Hawk	+		+	
Common Flicker	0.75	0.5	1.9	1.2
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Hairy Woodpecker	+		+	
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Scarlet Tanager	1	0.5	2.5	1.2
Northern Cardinal	0.5	0.25	1.2	0.6
Brown-headed Cowbird	+	+	+	+
<hr/>				
Territories on plot:	39.0	48.0		
Est. territories/100 acres			97.5	120.0

Additional spp. Detected within 100m of plot: Great Blue Heron, Green-backed Heron, Wood Duck, Mallard, Mourning Dove, Eastern Phoebe, White-eyed Vireo, Louisiana Waterthrush, Indigo Bunting, Common Grackle

SUMMARY OF 1992 SERC BREEDING BIRD CENSUS

DATES: 6-19 June 1992 VISITS: 7 HOURS: 11 hr 10 min

PLOT AREA: 15 ha (40 acre)

SPECIES	<u>TERRITORIES</u>		<u>EST. PRS/100 ACRES</u>	
	1991	1992	1991	1992
Barred Owl		+		ca.1
Red-shouldered Hawk	+		+	
Common Flicker	0.75	0.5	1.9	1.2
Red-bellied Woodpecker	2.25	3	5.6	7.5
Downy Woodpecker	1.75	2	4.4	5.0
Hairy Woodpecker	+		+	
Pileated Woodpecker	0.5	0.25	1.2	0.6
Yellow-billed Cuckoo	+		+	
Eastern Wood Pewee	1.5	3	3.8	7.5
Acadian Flycatcher	9.75	12	24.4	30.0
Great Crested Flycatcher	0.25		0.6	
Common Crow	nr	+		+
Blue Jay	+	0.25	+	0.6
White-breasted Nuthatch	0.25	1	0.6	2.5
Carolina Wren	2	1.5	5.0	3.8
Wood Thrush	5.25	6	13.1	15.0
American Robin		+		+
Tufted Titmouse	1	1.5	2.5	3.8
Carolina Chickadee	1	1	2.5	2.5
Red-eyed Vireo	4.75	7.75	11.9	19.4
Kentucky Warbler	1.0	0.5	2.5	2.2
Ovenbird	5.5	6.5	13.8	16.2
Northern Parula Warbler	nr	0.5		1.2
Scarlet Tanager	1	0.5	2.5	1.2
Northern Cardinal	0.5	0.25	1.2	0.6
Brown-headed Cowbird	+	+	+	+
<hr/>				
Territories on plot:	39.0	48.0		
Est. territories/100 acres			97.5	120.0

Additional spp. Detected within 100m of plot: Great Blue Heron, Green-backed Heron, Wood Duck, Mallard, Mourning Dove, Eastern Phoebe, White-eyed Vireo, Louisiana Waterthrush, Indigo Bunting, Common Grackle

11 June

- ⊙ hectare grid post
- ✦ Boundary Post
- 50m flagging point

DATE :
TIME STARTED :
TIME ENDED :

WEATHER:
OBSERVER:

Row 6
(6)
5450

5200 (Row 11)
Row 11

5250 (b)
Row 10

50m
SCALE

5306 (low)
Row 9

5350 (Row 8)
Row 8

7m04
0055
(7)

Row 6
(6)
5450

Row 5
5500 (5)

5550(4)
Row 4

5600(3)
R003

Row 2 (2)

5700
(1)P.

04300-2

64250 →

09200 →

104150 →

04100-

04350

64300

04250

04200

04150

04100

Muddy Creek

NORTH BRANCH

North Branch

04:

1992

Common Flicker

SERC BIRD CENSUS PLOT

- 6 June
- 11 June
- 16 June
- 18 June
- 19 June

- hectare grid post
- ✱ Boundary Post
- 50m flagging point

50m
SCALE

WEATHER:
OBSERVER:

DATE:
TIME STARTED:
TIME ENDED:

≈ 0.5 Terr.



1992

RED-BELLIED WOODPECKER

SERC BIRD CENSUS PLOT

- 6 June
- 10 June
- 11 June
- 16 June
- 17 June
- 18 June
- 19 June

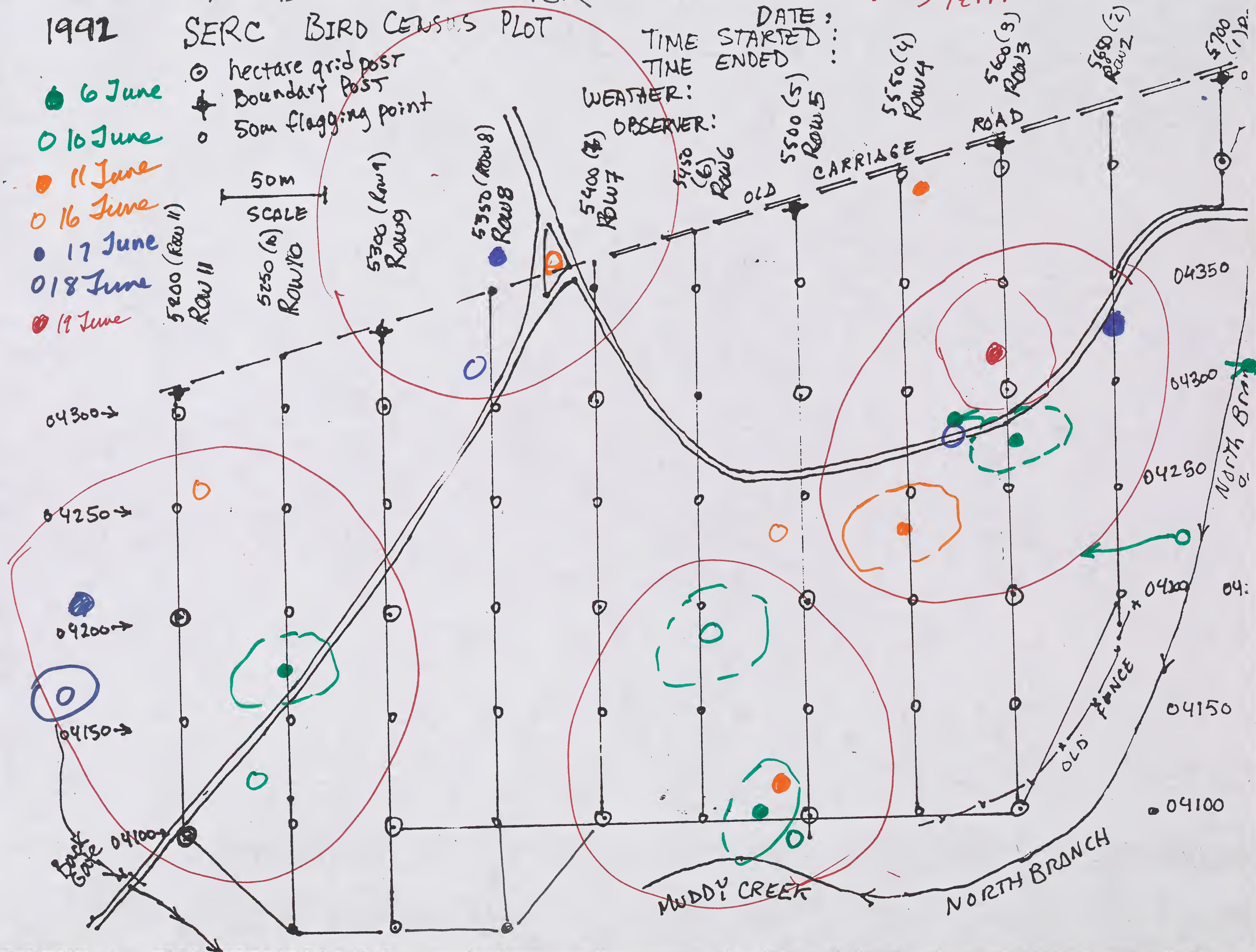
- hectare grid post
- ✱ Boundary Post
- 50m flagging point

50m
SCALE

WEATHER:
OBSERVER:

DATE:
TIME STARTED:
TIME ENDED:

~ 3 Terr.



PILEATED WOODPECKER

1992

SERC BIRD CENSUS PLOT

○ 10 June

● 11 June

○ 16 June

○ 18 June

- hectare grid post
- ✱ Boundary Post
- 50m flagging point

50m
SCALE

5200 (Row 11)
Row 11

5250 (6)
Row 10

5300 (Row 9)
Row 9

5350 (Row 8)
Row 8

5400 (7)
Row 7

5450 (6)
Row 6

5500 (5)
Row 5

5550 (4)
Row 4

5600 (3)
Row 3

5650 (2)
Row 2

5700 (1)
Row 1

DATE:
TIME STARTED:
TIME ENDED:

WEATHER:
OBSERVER:

~ 0.25 hr.

100m
NE

04300 →

04250 →

04200 →

04150 →

04100 →

04350

04300

04250

04200

04150

04100

North Branch

04:

100m
O

Muddy Creek

NORTH BRANCH

OLD FENCE

Back Gate



EASTERN WOOD PEWEE

1992

SERC BIRD CENSUS PLOT

- 8 June
- 10 June
- 11 June
- 16 June
- 17 June
- 18 June
- 19 June

- hectare grid post
- ✱ Boundary Post
- 50m flagging point

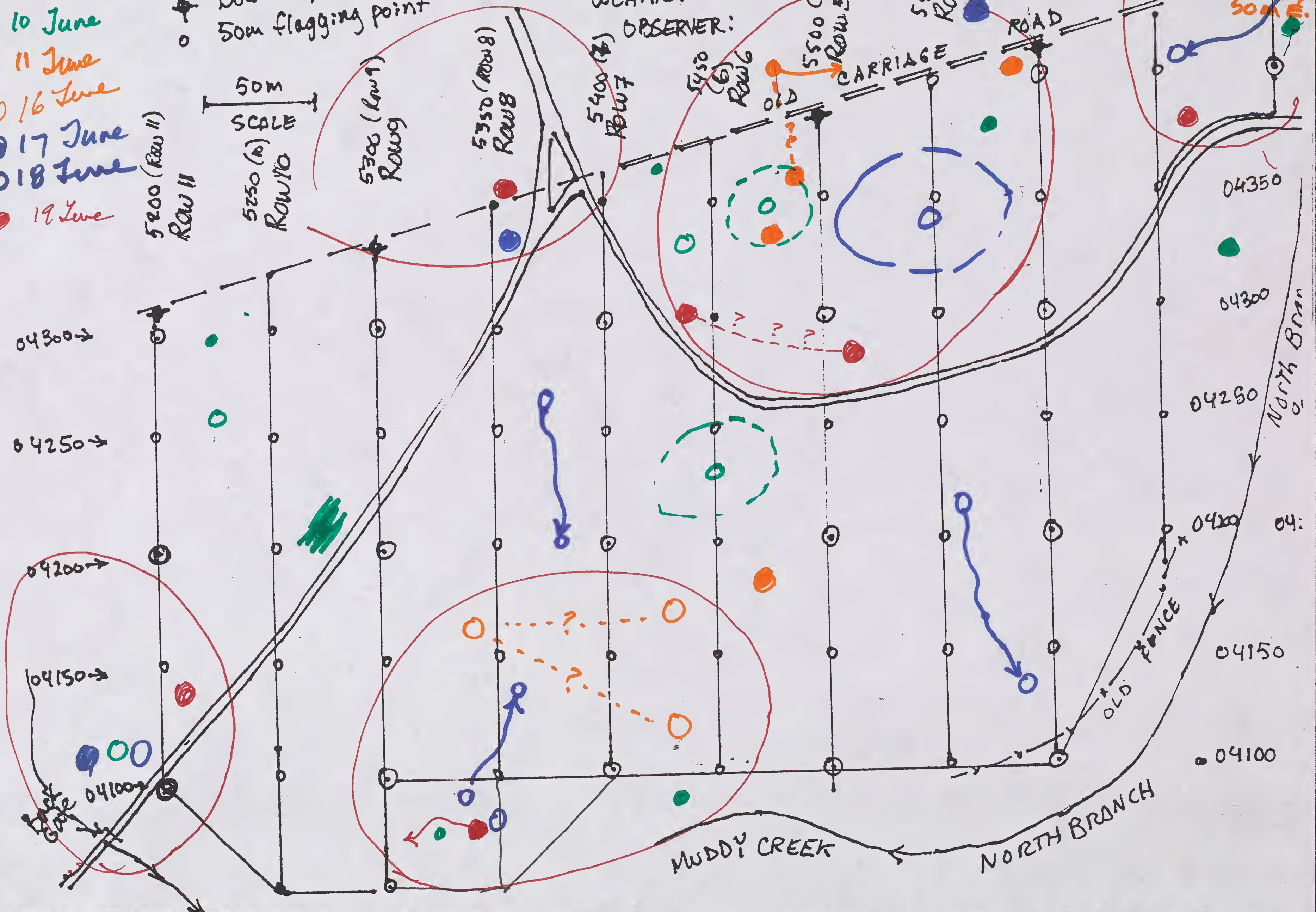
50m
SCALE

WEATHER:
OBSERVER:

DATE:
TIME STARTED:
TIME ENDED:

~ 3 Terr.

50m



SERC BIRD CENSUS PLOT

~ 12 terr.

DERIVATIVE

19 June

50m
SCALE

5200 (Row 11)
Row 11

5250 (b)
Row 10

5306 (low)
Row 9

Row 8
5350 (Row 8)

FMG 0055 (7)

5450

15

~~SS50(4)~~
Row 4

5600(3)
20023

560 (v)
Row 2

700 112

04350

64300

04250

04209

04:

64150


04100

~~Muddy Creek~~

NORTH BRANCH


back

04100



Q

A hand-drawn diagram of a cell. It features a large, irregular outer boundary representing the cell membrane. Inside this boundary is a smaller, roughly circular structure representing the nucleus. The space between the nucleus and the outer boundary is filled with a stippled or dotted pattern, representing the cytoplasm. The drawing is done in black ink on a white background.



10

1



0

 CH

● 17 June

- hectare grid post
- ⊕ Boundary Post
- 50m flagging point

DATE :
TIME STARTED :
TIME ENDED :

WEATHER:
OBSERVER:

5450
(6)
2006

5500 (5)
Row 5

CARRIAGE

ROAD

Row 2 (v)

5700

50m
SCALE

5200 (Row 11)
Row 11

Row 10
5250 (b)

5306 (low)
Roug

Row 8 (Row 8)

5400 (7) Bow 7

5450
(6)
20w6

5500 (5)
Row 5

5550(4)
Row 4

5600(3)

Row 2 (v)

5700

04300→

64250 →

09200 →

104150 →

04100

04350

64300

04250

04200

04:

04150

04100

Muddy Creek

NORTH BRANCH

1992

BLUE JAY

SERC BIRD CENSUS PLOT

~0.25

● 6 June
● 11 June
● 17 June

- hectare grid post
- ✦ Boundary Post
- 50m flagging point

50m
SCALE



1992

WHITE-BREASTED NUTHATCH
SERC BIRD CENSUS PLOT

~ 1 km

- 6 June
- 10 June
- 11 June
- 17 June
- 19 June

- hectare grid post
- ✱ Boundary Post
- 50m flagging point

DATE: ...
TIME STARTED: ...
TIME ENDED: ...

WEATHER: ...
OBSERVER: ...

5500 (5)
Row 5

5550 (4)
Row 4

5600 (3)
Row 3

5650 (2)
Row 2

5700 (1)
Row 1

50m
SCALE

5200 (Row 11)
Row 11

5250 (6)
Row 10

5300 (Row 9)
Row 9

5350 (Row 8)
Row 8

5400 (7)
Row 7

5450 (6)
Row 6

CARRIAGE
ROAD

ROAD

04300 →

04250 →

04200 →

04150 →

04100 →

04350

04300

04250

04200

04150

04100

North Branch

04:

OLD FENCE

Muddy Creek

NORTH BRANCH

50m S

1992

CAROLINA WREN SERC BIRD CENSUS PLOT

- hectare grid post
- ✦ Boundary Post
- 50m flagging point

- 6 June
- 10 June
- 11 June
- 16 June
- 17 June
- 18 June
- 19 June

50m
SCALE
5250 (6)
Row 10

5300 (Row 9)
Row 9

5350 (Row 8)
Row 8

WEATHER:
OBSERVER:
5400 (7)
Row 7

5450 (6)
Row 6

5500 (5)
Row 5

5550 (4)
Row 4

5600 (3)
Row 3

5650 (2)
Row 2

5700 (1)
Row 1

DATE:
TIME STARTED:
TIME ENDED:

0.25

~1.5 hr

CARRIAGE

♀ + 2 fledgl.

OLD

04350

04300

04250

04200

04150

04100

North Branch

OLD FENCE

Muddy Creek

NORTH BRANCH

04300 →

04250 →

04200 →

04150 →

04100 →

East Gate

♀? carrying food

0.25

100m

50

100

150

200

250

300

350

400

450

500

550

600

1992

WOOD THRUSH SERC BIRD CENSUS PLOT

- 5 June
 - 10 June
 - 11 June
 - 16 June
 - 17 June
 - 18 June
 - 19 June
- hectare grid post
✦ Boundary Post
○ 50m flagging point

50m
SCALE
5200 (Row 11)
Row 11
5250 (a)
Row 10

5300 (Row 9)
Row 9

5350 (Row 8)
Row 8

5400 (7)
Row 7

5450 (6)
Row 6

5500 (5)
Row 5

5550 (4)
Row 4

5600 (3)
Row 3

5650 (2)
Row 2

5700 (1)
Row 1

DATE: ...
TIME STARTED: ...
TIME ENDED: ...

WEATHER: ...
OBSERVER: ...

CARRIAGE
ROAD

nest w. 1 egg

Muddy Creek

NORTH BRANCH

04350

04300

04250

04200

04150

04100

North Branch

OLD FENCE

0.25

0.5

04150

04100

Back Gate

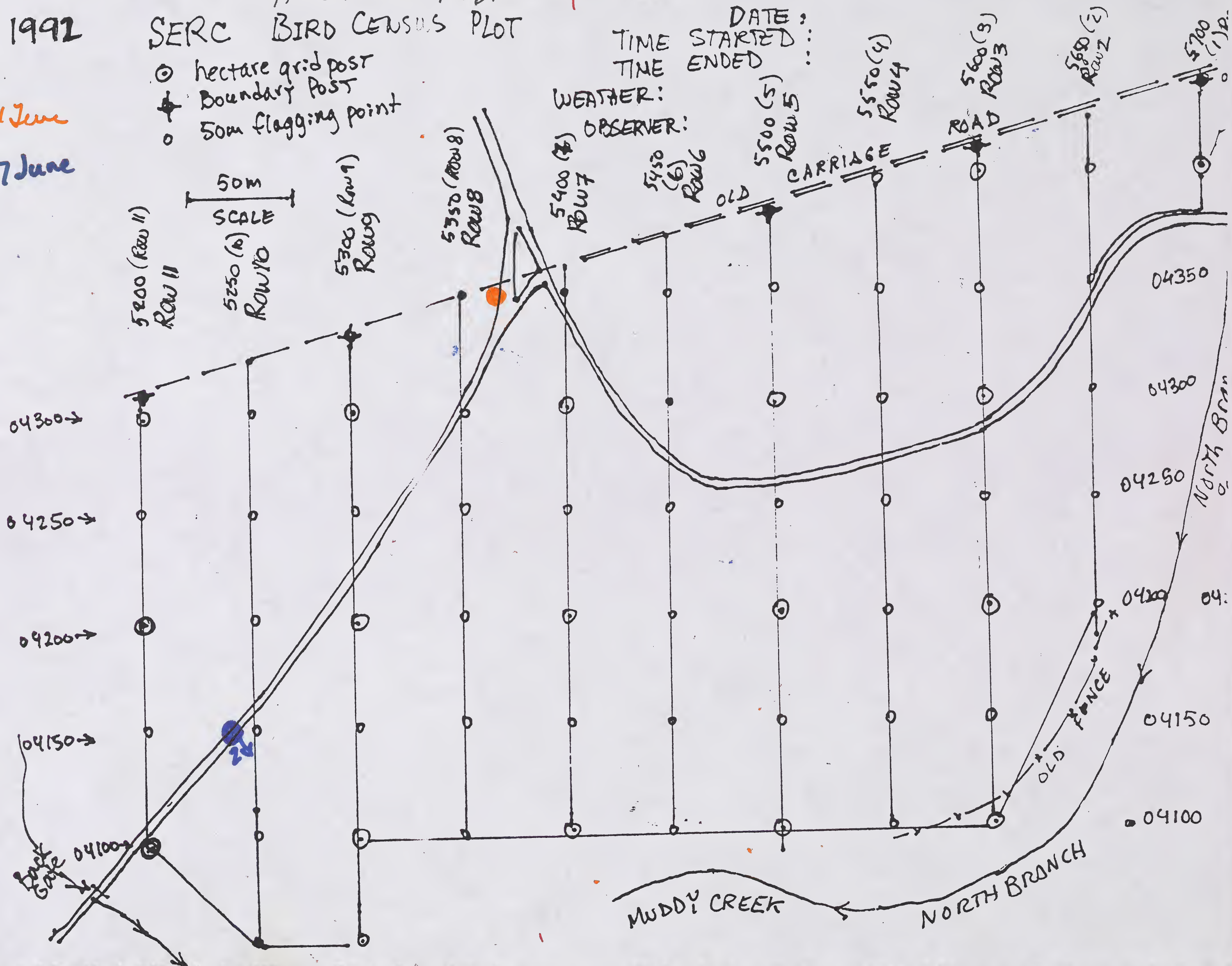
17 June

+

- ⊙ hectare grid post
- ⊕ Boundary Post
- 50m flagging point

DATE :
TIME STARTED :
TIME ENDED :

WEATHER:
OBSERVER:



1992

CAROLINA CHICKADEE
SERC BIRD CENSUS PLOT

● 6 June

● 11 June

● 17 June

- hectare grid post
- ✦ Boundary Post
- 50m flagging point

DATE: ~ 1 TEN
TIME STARTED:
TIME ENDED:

WEATHER:
OBSERVER:



1992

RED-EYED VIREO

SERC BIRD CENSUS PLOT

- 6 June
- 10 June
- 71 June
- 16 June
- 17 June
- 18 June
- 19 June

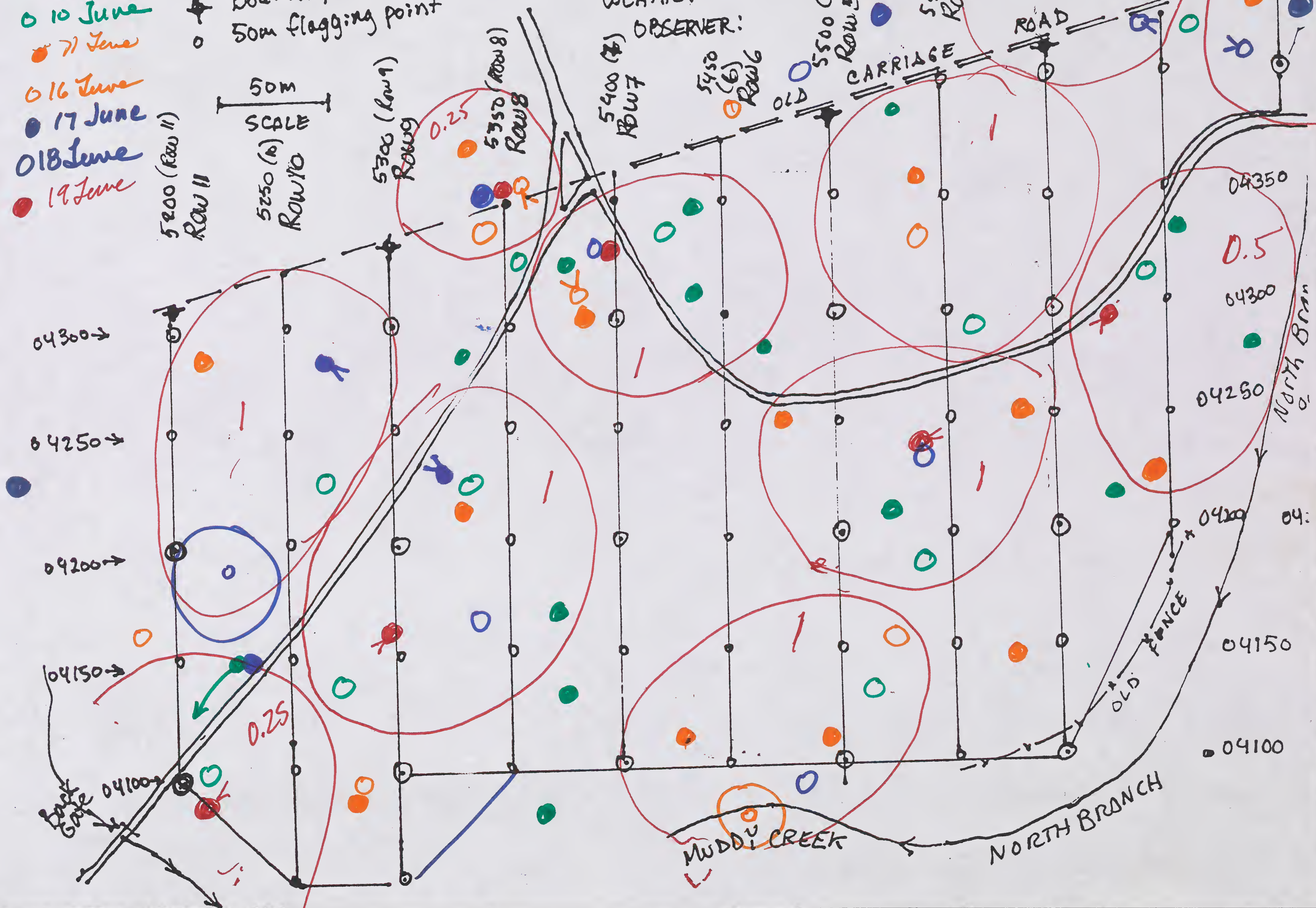
- hectare grid post
- Boundary Post
- 50m flagging point

50m
SCALE

~ 7.75 km.

DATE:
TIME STARTED:
TIME ENDED:

WEATHER:
OBSERVER:



1992

WHITE-EYED VIREO
SERC BIRD CENSUS PLOT

none on plot

DATE:

TIME STARTED:

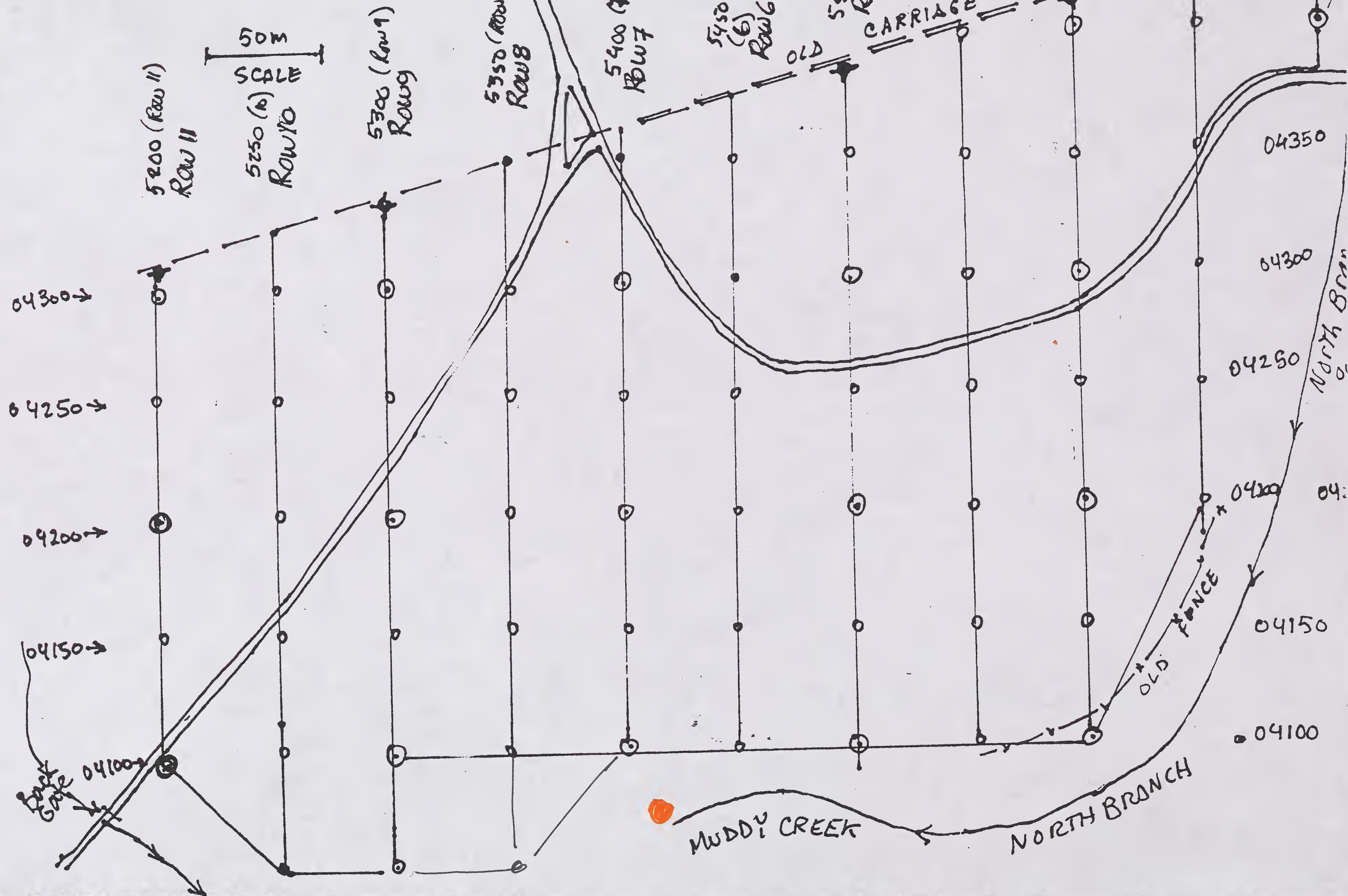
TIME ENDED:

WEATHER:

OBSERVER:

11 June

- hectare grid post
- ✱ Boundary Post
- 50m flagging point



- 11 June
- 17 June
- 18 June

- ⊙ hectare grid post
- ✚ Boundary Post
- 50m flagging point

DATE :
TIME STARTED
TIME ENDED

WEATHER:
OBSERVER:

~ 0.5 μm

5200 (Row 11)
Row 11

50m
SCALE

5250 (B)
Row 10

5306 (low)
Roug

5350 (Rev 8)
Rev 8

5400 (7)
BOW

5450
(6)
2006

5500 (5)
Row 5

5550(4)
Row 4

5600(3)

Row 2 (5)

5700

04300→

64250 →

09200 →

104150 →

041007

04350

64300

04250

042001

04.

04150

04100

Muddy Creek

NORTH BRANCH

1992

OVENBIRD
SERC BIRD CENSUS PLOT

- 6 June
- 10 June
- 11 June
- 16 June
- 17 June
- 18 June
- 19 June

- hectare grid post
- Boundary Post
- 50m flagging point

50m
SCALE

WEATHER:
OBSERVER:

DATE:
TIME STARTED:
TIME ENDED:

~6.5 hr.

04300 →

04250 →

04200 →

04150 →

04100 →

5300 (Row 9)
Row 9

5350 (Row 8)
Row 8

5400 (Row 7)
Row 7

5550 (Row 4)
Row 4

5600 (Row 3)
Row 3

5650 (Row 2)
Row 2

04300
04250
04200
04150
04100

Muddy Creek

NORTH BRANCH

OLD FENCE

Back Gate

.75

04100

04150

04200

04250

04300

04350

20 over

02 (Ad + fledgl.)

CARRIAGE

OLD

5450

5500 (5)

5550 (4)

5600 (3)

5650 (2)

5700 (1)

5750 (0)

5800 (-1)

5850 (-2)

5900 (-3)

5950 (-4)

6000 (-5)

6050 (-6)

6100 (-7)

6150 (-8)

6200 (-9)

6250 (-10)

6300 (-11)

6350 (-12)

6400 (-13)

6450 (-14)

6500 (-15)

6550 (-16)

6600 (-17)

6650 (-18)

6700 (-19)

6750 (-20)

6800 (-21)

6850 (-22)

6900 (-23)

6950 (-24)

7000 (-25)

7050 (-26)

7100 (-27)

7150 (-28)

7200 (-29)

7250 (-30)

7300 (-31)

7350 (-32)

7400 (-33)

7450 (-34)

7500 (-35)

7550 (-36)

7600 (-37)

7650 (-38)

7700 (-39)

7750 (-40)

7800 (-41)

7850 (-42)

7900 (-43)

7950 (-44)

8000 (-45)

8050 (-46)

8100 (-47)

8150 (-48)

8200 (-49)

8250 (-50)

1992

Northern Parula.

SERC BIRD CENSUS PLOT

● 6 June
○ 10 June

● 11 June

○ 16 June

● 17 June

○ 18 June

- hectare grid post
- ✱ Boundary Post
- 50m flagging point

50m
SCALE

5200 (Row 11)
Row 11

5300 (Row 9)
Row 9

5350 (Row 8)
Row 8

5400 (Row 7)
Row 7

5450 (Row 6)
Row 6

5500 (Row 5)
Row 5

5550 (Row 4)
Row 4

5600 (Row 3)
Row 3

5650 (Row 2)
Row 2

0.5

5700 (Row 1)
Row 1

2nd NAPA
ON E Side
of N. Branch

04350

04300

04250

North Branch

04200

04150

04100

Muddy Creek

NORTH BRANCH

DATE:
TIME STARTED:
TIME ENDED:

WEATHER:
OBSERVER:

~ 0.5 terr.

04300 →
04250 →

04200 →

04150 →

04100 →

Back Gate

OLD FENCE

1992

SCARLET Tanager SERC BIRD CENSUS PLOT

10 June 92

17 June 92

18 June 92

19 June

- hectare grid post
- ✚ Boundary Post
- 50m flagging point

50m
SCALE

5200 (Row 11)
Row 11

5250 (Row 10)
Row 10

5300 (Row 9)
Row 9

5350 (Row 8)
Row 8

5400 (Row 7)
Row 7

5450 (Row 6)
Row 6

5500 (Row 5)
Row 5

5550 (Row 4)
Row 4

5600 (Row 3)
Row 3

5650 (Row 2)
Row 2

5700 (Row 1)
Row 1

DATE:
TIME STARTED:
TIME ENDED:

WEATHER:
OBSERVER:

CARRIAGE

same?

04300 →

04250 →

04200 →

04150 →

04100 →

04350

04300

04250

04200

04150

04100

Muddy Creek

NORTH BRANCH

OLD FENCE

North Branch

1992

N. CARDINAL
SERC BIRD CENSUS PLOT

- hectare grid post
- ✱ Boundary Post
- 50m flagging point

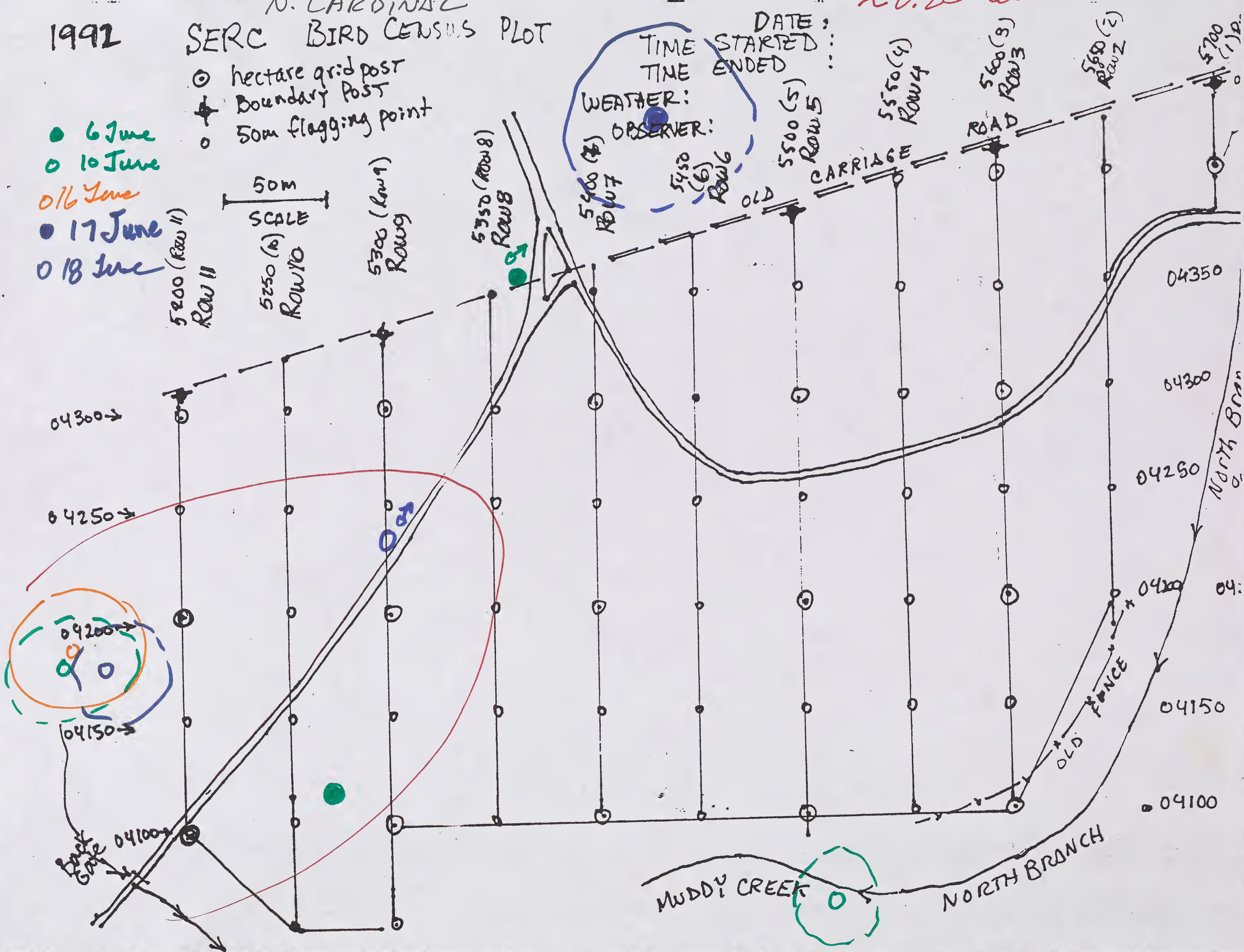
● 6 June
○ 10 June
○ 16 June
● 17 June
○ 18 June

50m
SCALE

DATE: ...
TIME STARTED: ...
TIME ENDED: ...

WEATHER: ...
OBSERVER: ...

~ 0.25 ha



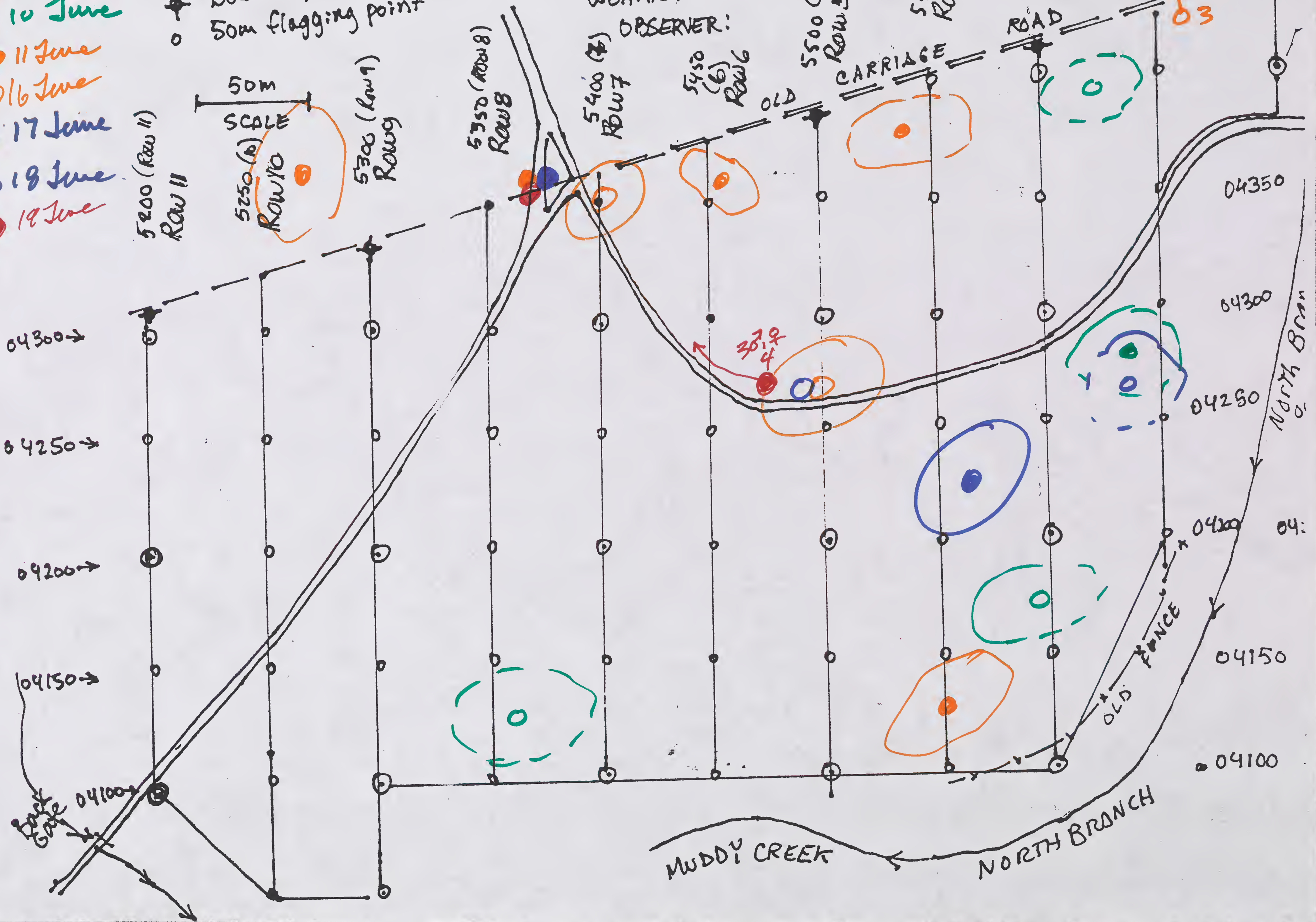
1992

- 6 June
- 10 June
- 11 June
- 16 June
- 17 June
- 18 June
- 19 June

BROWN-HEADED COWBIRD SERC BIRD CENSUS PLOT

- hectare grid post
- ✦ boundary post
- 50m flagging point

DATE:
TIME STARTED:
TIME ENDED:
WEATHER:
OBSERVER:
+++



OFF PLOT: MoDo, Sen. Col. N. N. Branch Weir AM60 - Beaverpond area

Blue Jay - N. Branch S. of road

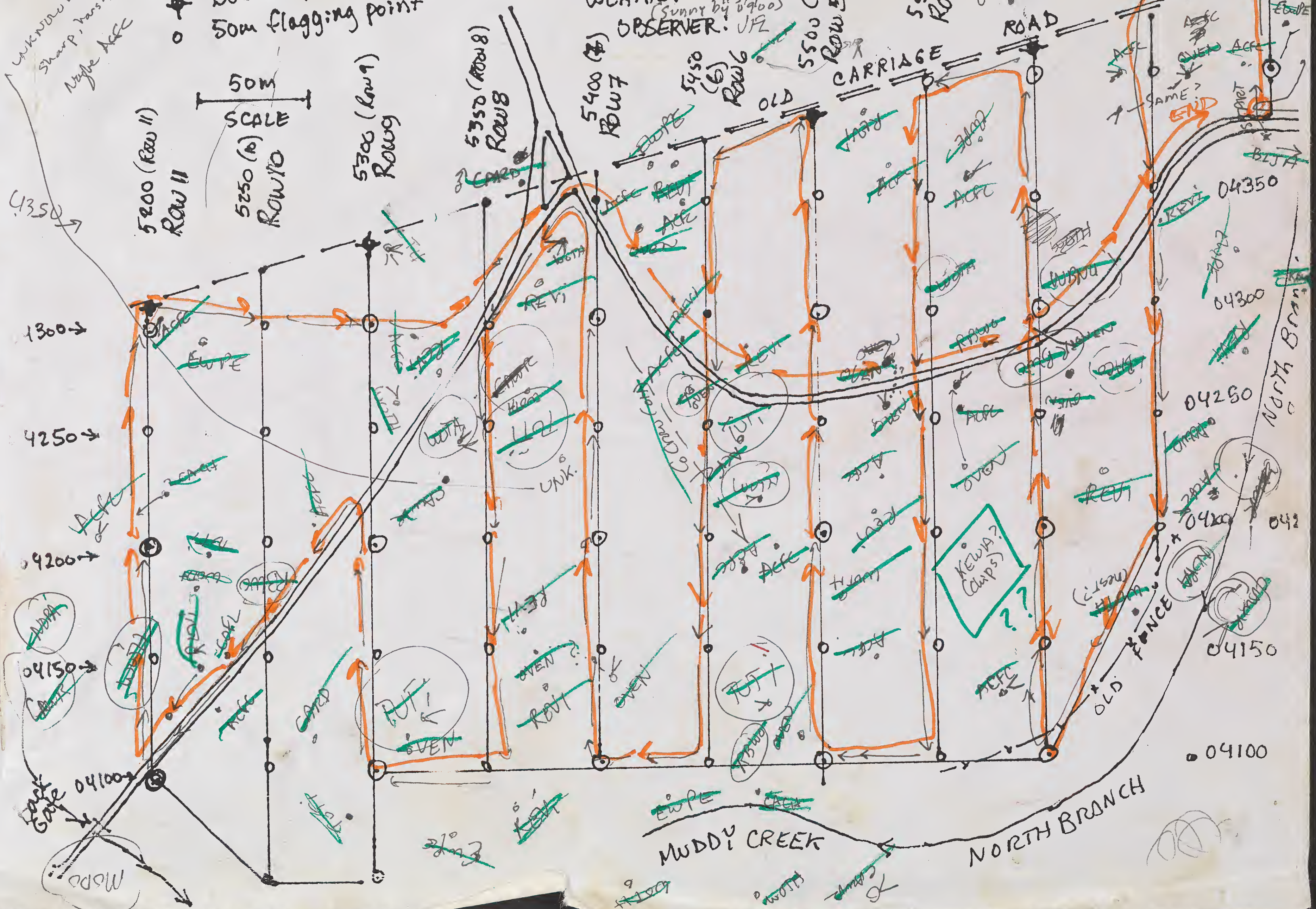
1992

SERC BIRD CENSUS PLOT

- hectare grid post
- ✱ Boundary Post
- 50m flagging point

DATE: 5 June 92
TIME STARTED: 06:15
TIME ENDED: 09:10

WEATHER: Cool, still, MISTY (Sunny by 0900)
OBSERVER: JFZ



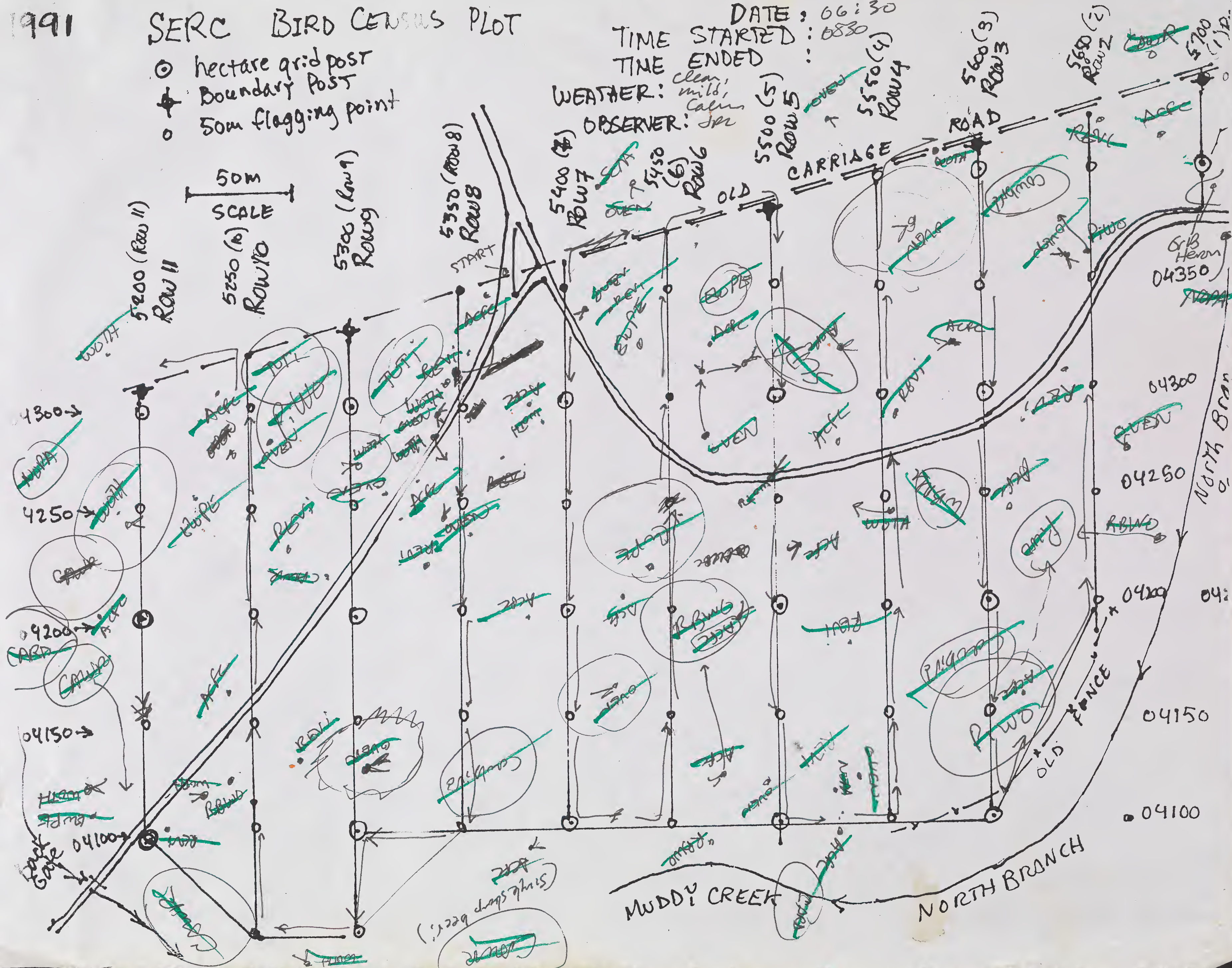
1991

SERC BIRD CENSUS PLOT

- ⊙ hectare grid post
- ⊕ Boundary Post
- 50m flagging point

DATE: 10 June 92
TIME STARTED: 06:30
TIME ENDED: 08:30

WEATHER: ^{clear,} mild,
^{calm}
OBSERVER: JPR



1992

SERC BIRD CENSUS PLOT

- ⊙ hectare grid post
- ✦ Boundary Post
- 50m flagging point

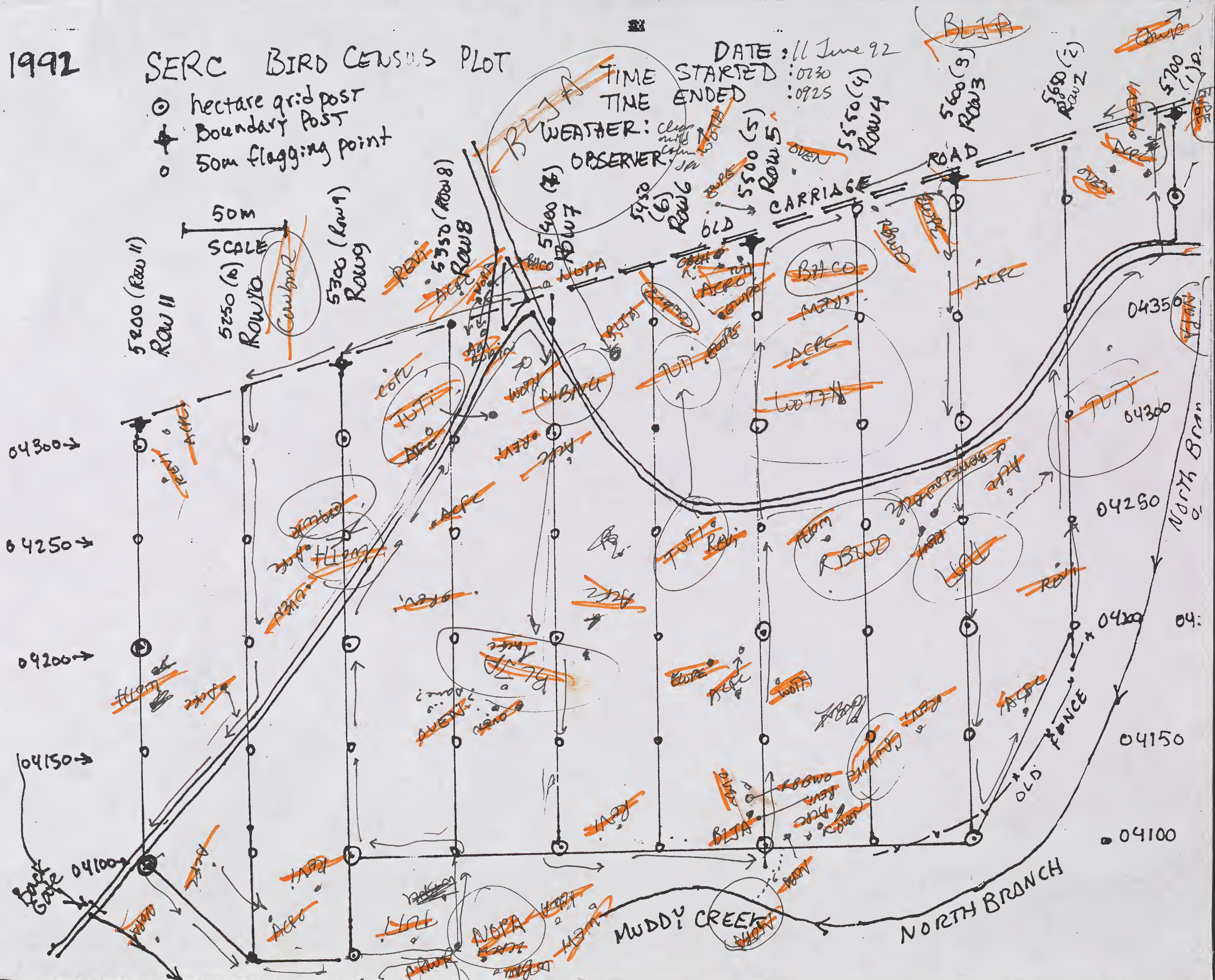
DATE : 11 June 92

TIME STARTED : 0730

TIME ENDED : 0925

WEATHER:

OBSERVE



1991

GRF Plot: COCRAD, MOBO

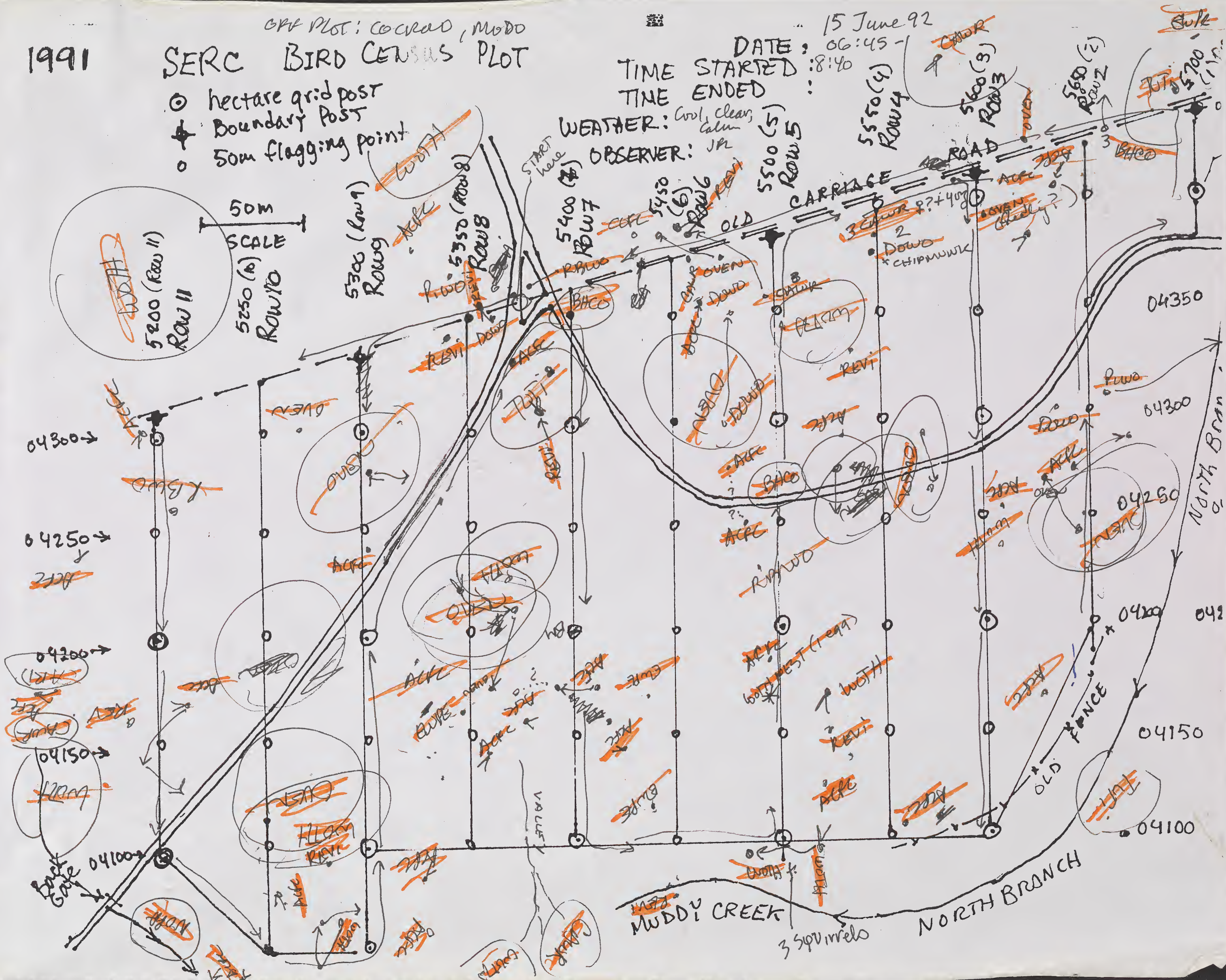
SERC BIRD CENSUS PLOT

- ⊙ hectare grid post
- ✦ Boundary Post
- 50m flagging point

DATE: 15 June 92
TIME STARTED: 06:45 -
TIME ENDED: 8:40 (2)

WEATHER: Cool, clear,
calm

OBSERVER: JAL



1992

off the plot: Blue Jay, ~~Redstart~~, Gr Bl Heron

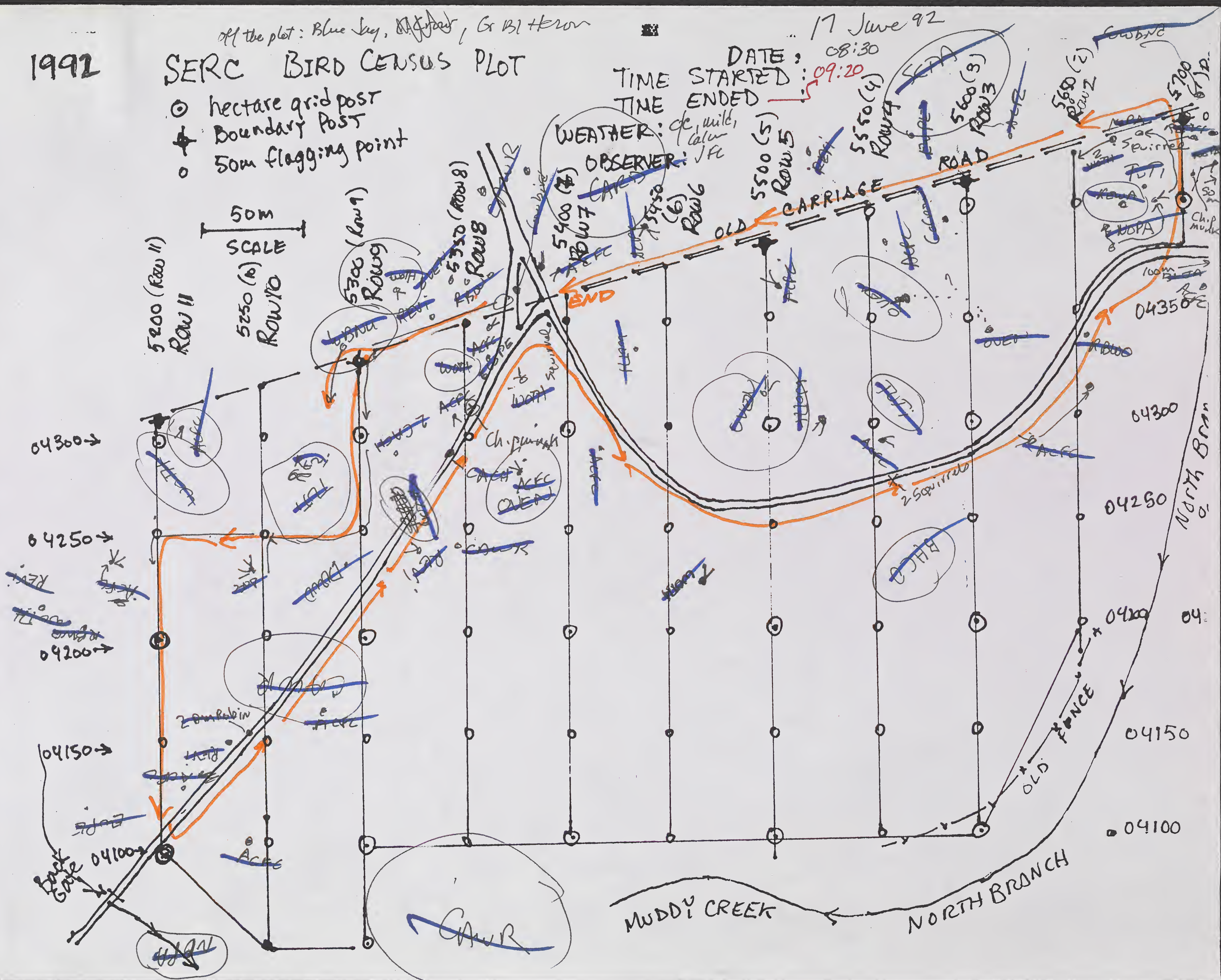
SERC BIRD CENSUS PLOT

- ⊙ hectare grid post
- ⊕ Boundary Post
- 50m flagging point

DATE: 17 June 92
TIME STARTED: 08:30
TIME ENDED: 09:20

WEATHER: c/c, mild, calm

OB SERVER: ✓ AC



1992

heard of the plot: P. Wo, C. Low,
WBU, E. Phoebe

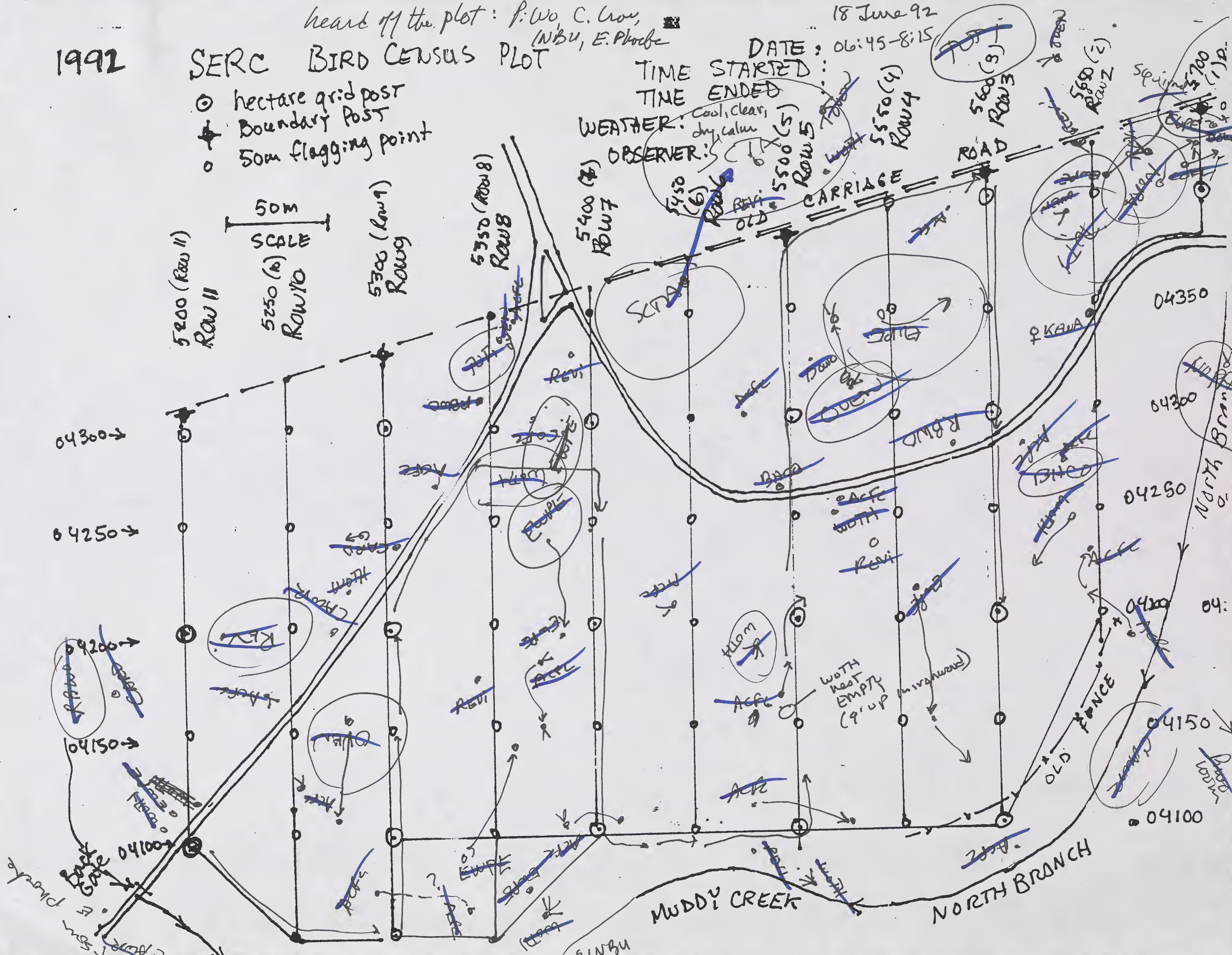
SERC BIRD CENSUS PLOT

- hectare grid post
- ✱ Boundary Post
- 50m flagging point

DATE: 18 June 92
TIME STARTED: 06:45-8:15
TIME ENDED:

WEATHER: Cool, clear,
dry, calm

OBSERVER: [initials]



1991

SERC BIRD CENSUS PLOT

- ⊙ hectare grid post
- ✦ Boundary Post
- 50m flagging point

of Ret: 6BH, 9vachely, INBn

19 June 92

~~WORTH~~ DATE: 8:20
TIME STARTED: 9:15
~~TIME ENDED~~

WEATHER: Cool, calm
reg. wet fr. rain
OBSERVER: ~~SA~~



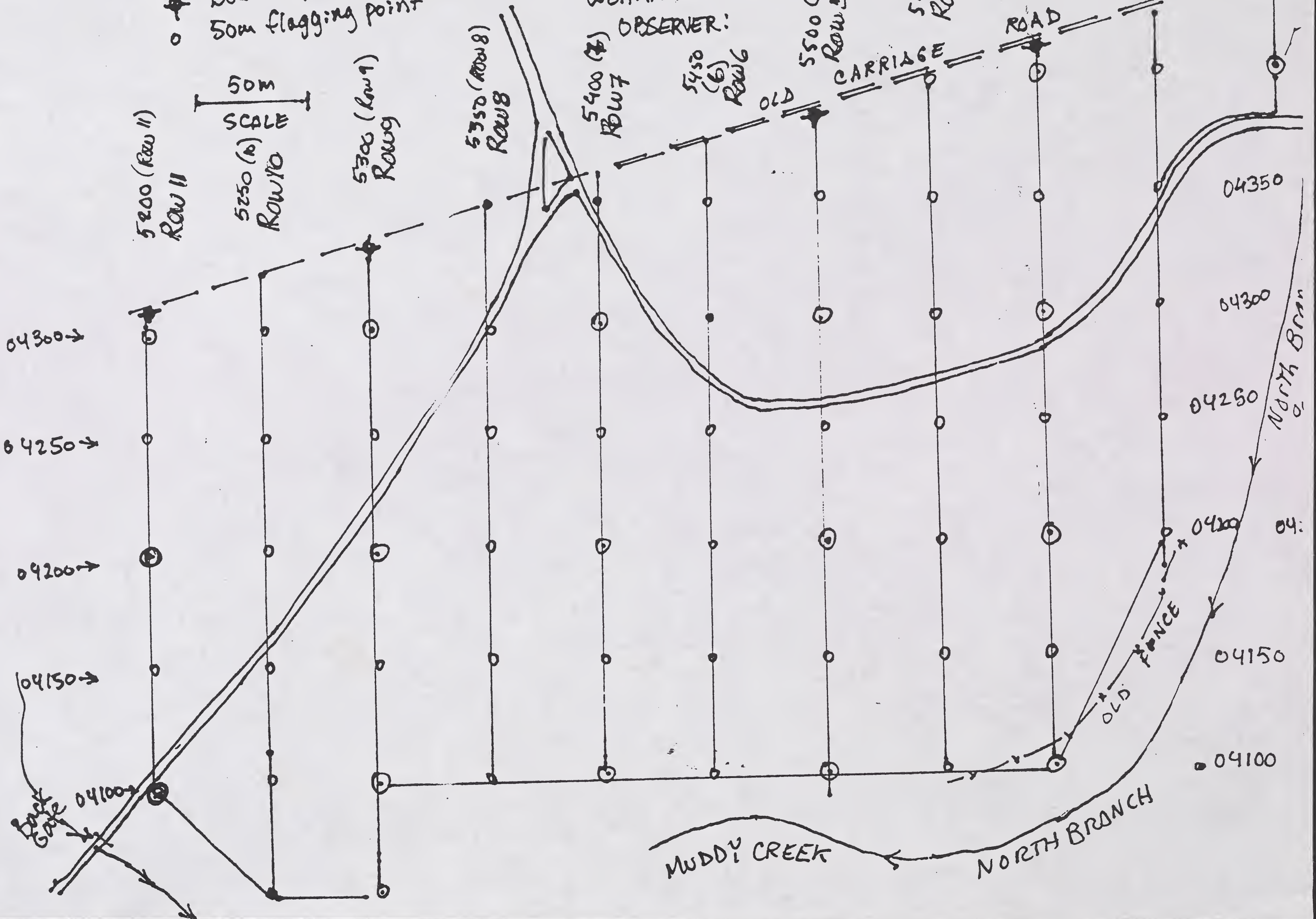
1992

SERC BIRD CENSUS PLOT

- hectare grid post
- ✱ Boundary Post
- 50m flagging point

DATE:
 TIME STARTED:
 TIME ENDED:

WEATHER:
 OBSERVER:



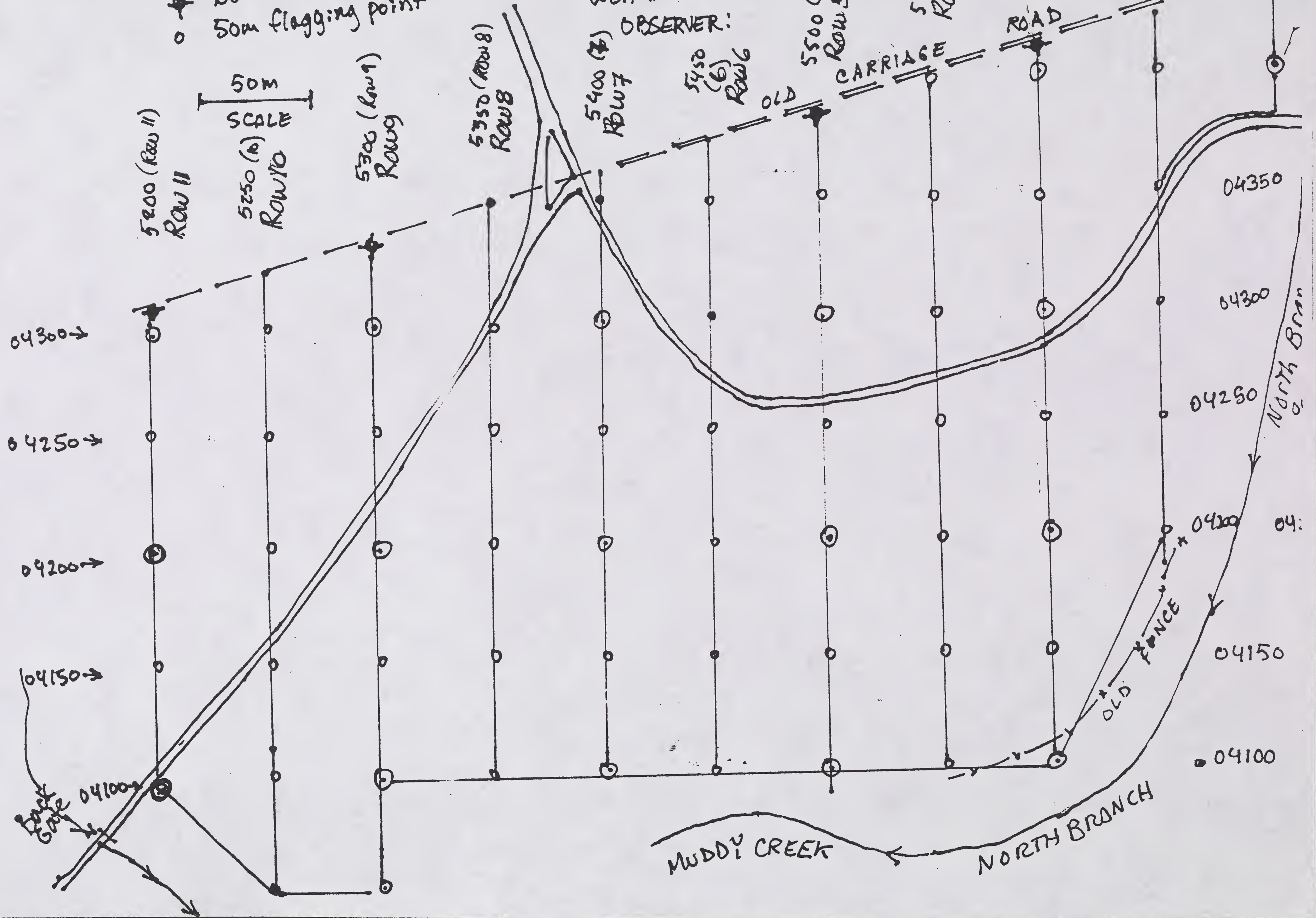
1992

SERC BIRD CENSUS PLOT

- ⊙ hectare grid post
- ✦ Boundary Post
- 50m flagging point

DATE: _____
TIME STARTED: _____
TIME ENDED: _____

WEATHER: _____
OBSERVER: _____



1990

SERC BIRD CENSUS PLOT

- hectare grid post
- ✱ Boundary Post
- 50m flagging point

50m
SCALE

WEATHER:
OBSERVER:

DATE:
TIME STARTED:
TIME ENDED:



1990

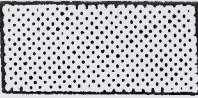
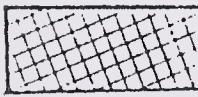


SERC BIRD CENSUS PLOT

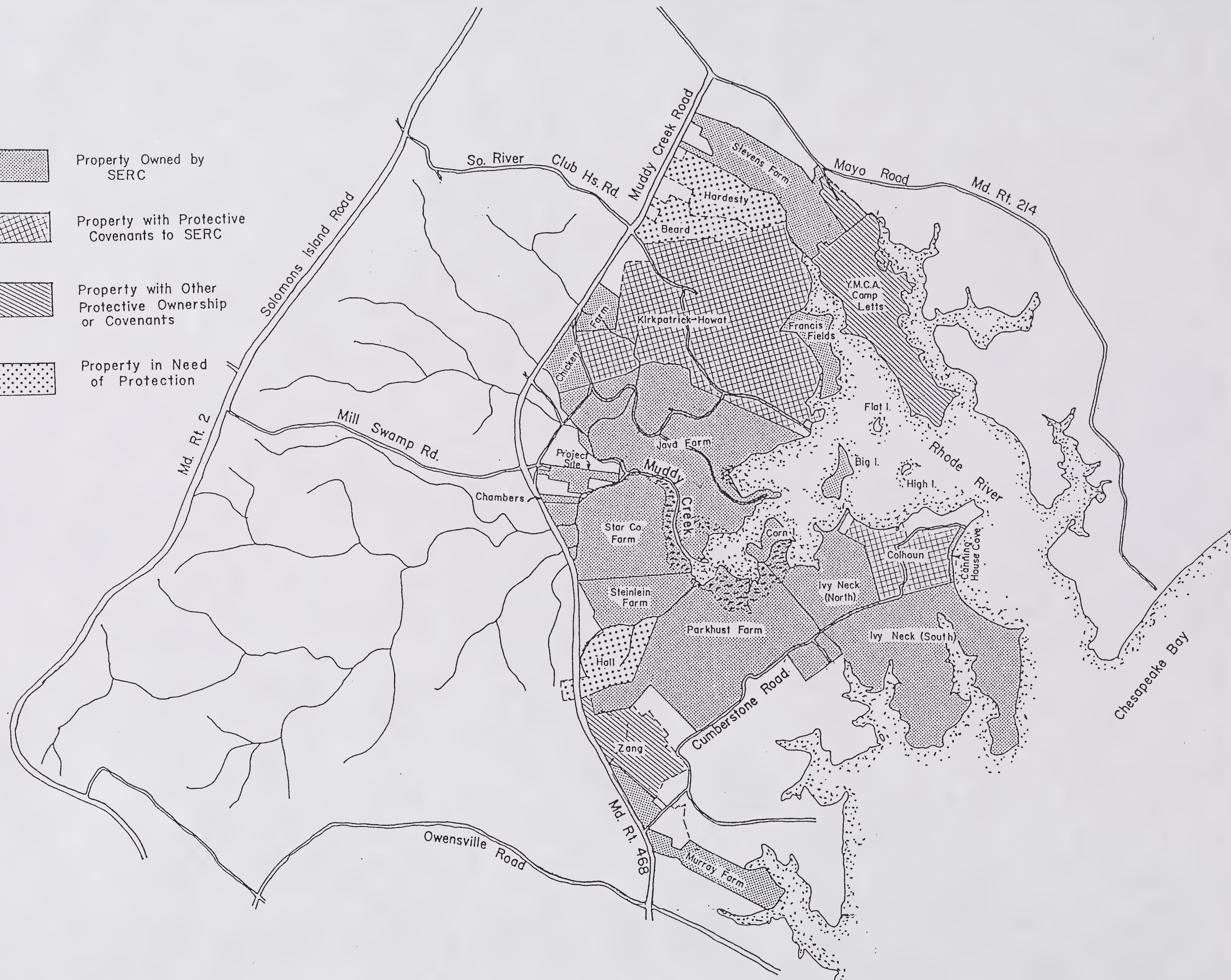
- hectare grid post
- ✱ Boundary Post
- 50m flagging point

DATE :
TIME STARTED :
TIME ENDED :

WEATHER :
OBSERVER :



-  Property Owned by SERC
-  Property with Protective Covenants to SERC
-  Property with Other Protective Ownership or Covenants
-  Property in Need of Protection



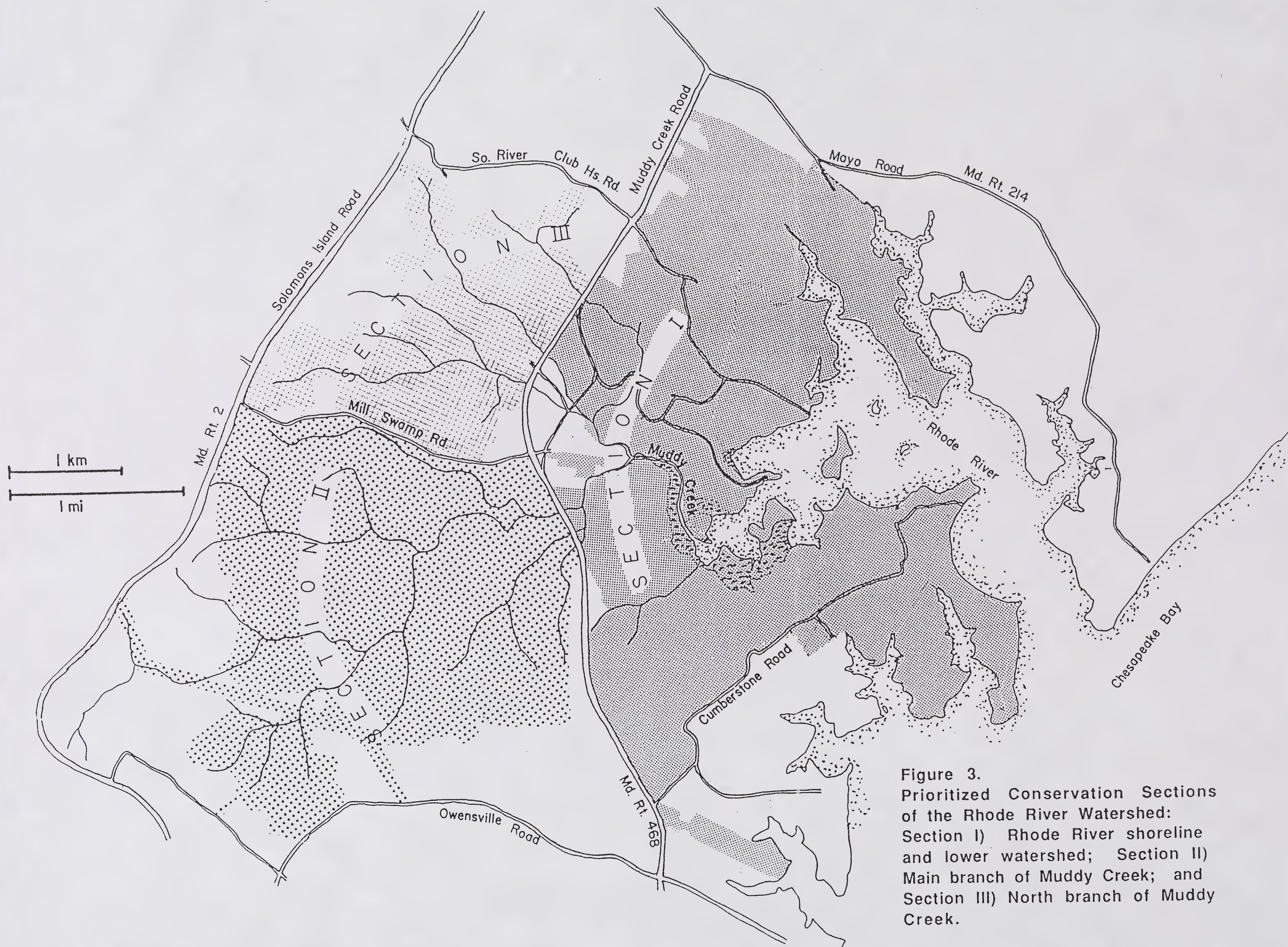


Figure 3.
Prioritized Conservation Sections
of the Rhode River Watershed:
Section I) Rhode River shoreline
and lower watershed; Section II)
Main branch of Muddy Creek; and
Section III) North branch of Muddy
Creek.

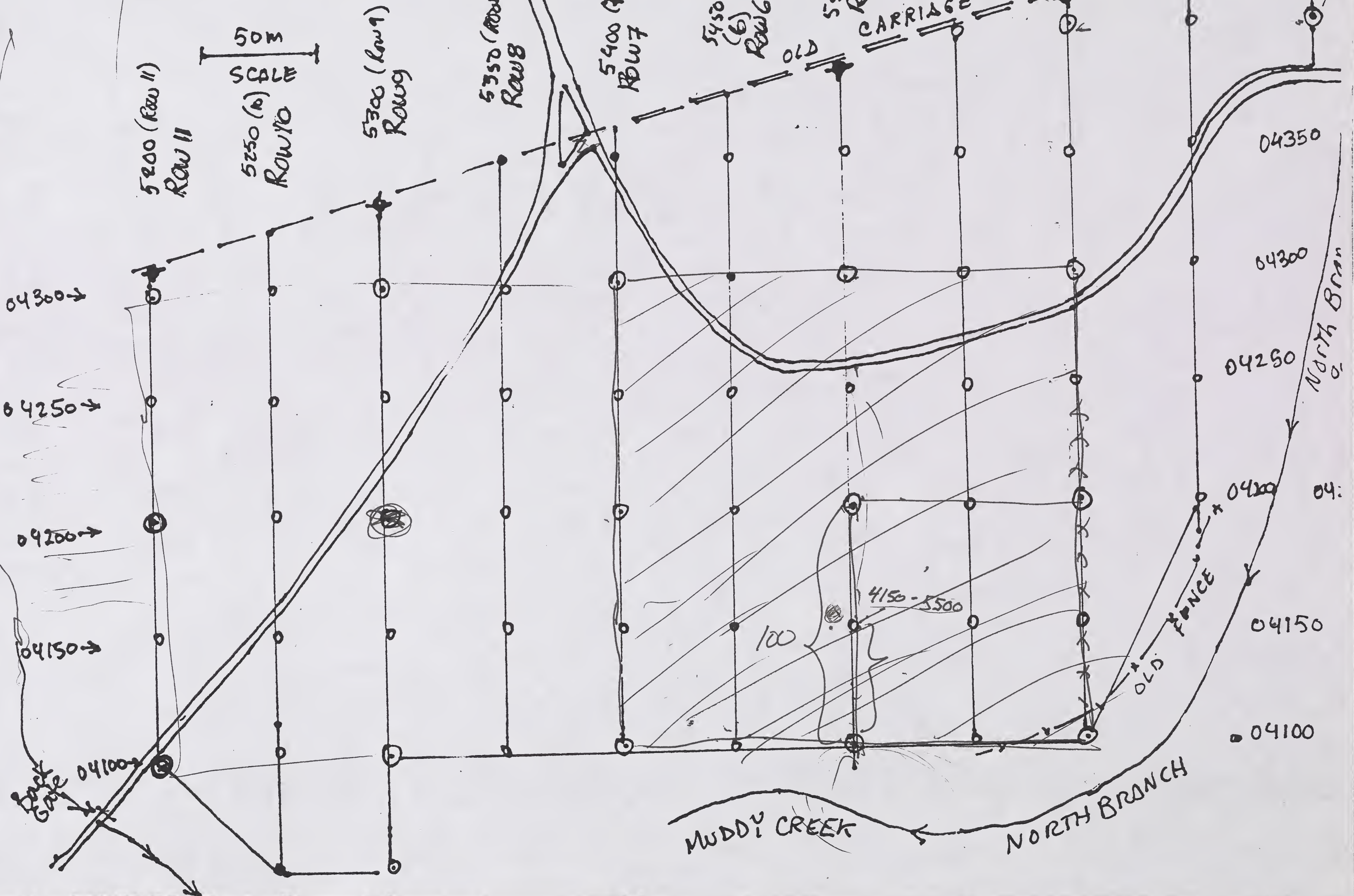
1992

SERC BIRD CENSUS PLOT

- hectare grid post
- ✱ Boundary Post
- 50m flagging point

DATE:
TIME STARTED:
TIME ENDED:

WEATHER:
OBSERVER:



1992

SERC BIRD CENSUS PLOT

- hectare grid post
- ✱ Boundary Post
- 50m flagging point

DATE: ...
TIME STARTED: ...
TIME ENDED: ...

WEATHER: ...

OBSERVER: ...

50m
SCALE

5200 (Row 11)
Row 11

5250 (6)
Row 10

5300 (Row 9)
Row 9

5350 (Row 8)
Row 8

5400 (7)
Row 7

5450 (6)
Row 6

5500 (5)
Row 5

5550 (4)
Row 4

5600 (3)
Row 3

5650 (2)
Row 2

5700 (1)
Row 1

CARRIAGE

ROAD

OLD

OLD FENCE

04350

04300

04250

04200

04150

04100

North Branch

Muddy Creek

NORTH BRANCH

04300 →

04250 →

04200 →

04150 →

04100 →

Back Gate

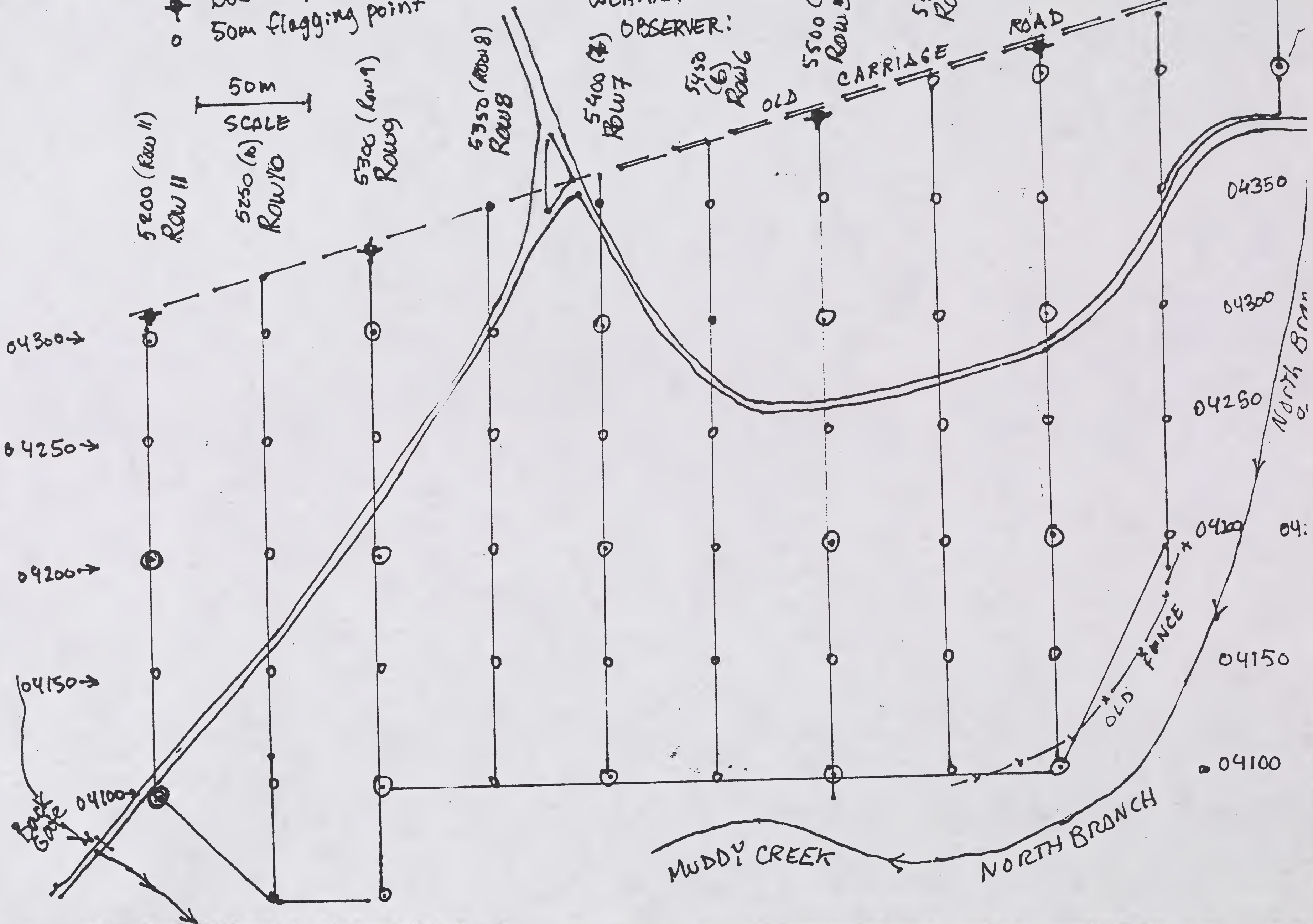
1992

SERC BIRD CENSUS PLOT

- hectare grid post
- ✱ boundary post
- 50m flagging point

DATE: ...
TIME STARTED: ...
TIME ENDED: ...

WEATHER: ...
OBSERVER: ...



1992

SERC BIRD CENSUS PLOT

- hectare grid post
- ✱ Boundary Post
- 50m flagging point

DATE: ..
TIME STARTED: ..
TIME ENDED: ..

WEATHER: ..
OBSERVER: ..

